TECHNICAL UNIVERSITY OF KENYA

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EXPLORING VISUAL CULTURES

KIW KENYA INNOVATION WEEK 2024 AFRICA EDITION

THE 4TH INTERNATIONAL TECHNICAL UNIVERSITY OF KENYA EXPLORING VISUAL CULTURES CONFERENCE AND EXHIBITION

25th — 26th November at the Edge Convention Center

27th — 29th at The Technical University of Kenya

CONFERENCE PROGRAMME & ABSTRACTS

WIMBO WA TAIFA

Eeh Mungu nguvu yetu
Ilete baraka kwetu
Haki iwe ngao na mlinzi
Natukae na undugu
Amani na uhuru
Raha tupate na ustawi

Amkeni ndugu zetu
ufanye sote bidii
Nasi tujitoe kwa nguvu
Nchi yetu ya Kenya
Tunayoipenda
Tuwetayari kuilinda

Natujenge taifa letu
Ee, ndio waajibu wetu
Kenya istahili heshima
Tuungane mikono
Pamoja kazini
Kila siku tuwe na shukrani

THE TECHNICAL UNIVERSITY OF KENYA

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Kenya
National Commission

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kiw
KENYA INNOVATION WEEK 2024 AFRICA EDITION

4TH INTERNATIONAL TECHNICAL UNIVERSITY OF KENYA

EXPLORING VISUAL CULTURES CONFERENCE AND EXHIBITION IN COLLABORATION WITH KENYA INNOVATION AGENCY

25th - 26th November at the Edge Convention centre

27th - 29th November at The Technical University of kenya

Conference and Exhibtion Committee

Conference Planning Committee

- Dr. Mary Clare Kidenda, Technical University of Kenya- Chair
- Prof. Kiura Selessio, Technical University of Kenya -
- Prof. Suki Mwendwa ,Technical University of Kenya
- Prof. Odoch Pido, Technical University of Kenya
- Prof. Ernst Wagner, Ludwig-Maximillian's-University Munich, Germany
- Prof. Runette Kruger, Durban University of Technology, South Africa
- Dr. Avitah Sooful, University of Pretoria , South Africa
- Dr. Joel Ongoto, The Kenya National Commission for UNESCO
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- Winnie Oyuko, Technical University of Kenya
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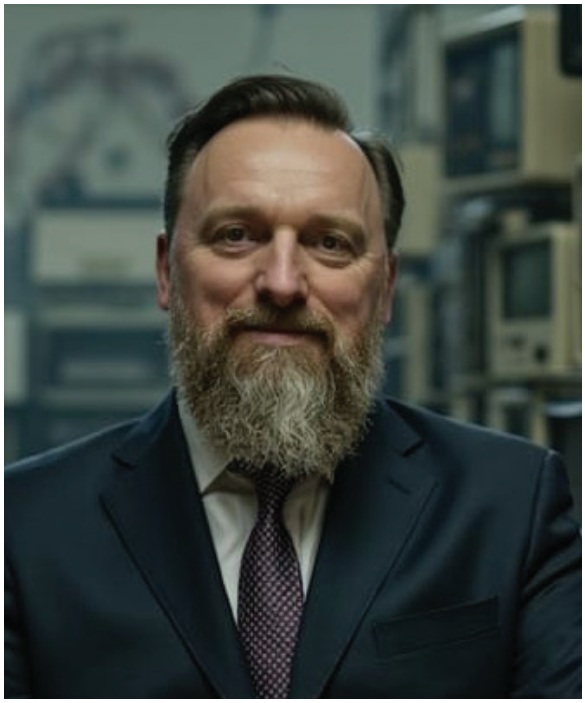
Peer Reviewers

- The Kenya National Commission for UNESCO
- Exploring Visual Cultures Expert Panel
- Technical University of Kenya

Keynote Speaker(s)



Prof. Dr. Benjamin Jorissen

Benjamin Jörissen is Professor of Education with a focus on Culture and Aesthetics at the Friedrich-Alexander-Universität Erlangen-Nürnberg, where he also holds the UNESCO Chair in Digital Culture and Arts in Education and leads the associated Nuremberg Academy for Digital Culture and Performative Education. He is Executive Editor of the International Journal for Research in Cultural, Aesthetic, and Arts Education and spokesperson for the UNITWIN Arts Education Research for Cultural Diversity and Sustainable Development.

Jörissen's work explores the intersection of education, culture, and mediality in digital transformation. His current research encompasses several major projects on digitalization and artificial intelligence in Culture and Arts Education, postdigital youth culture, Culture and Arts Education in Societal Transformations, funded by the German Federal Ministry of Education and Research (BMBF). Recent developments focus on sustainability and cultural resilience in postdigital and decolonial perspectives.

A member of the European Academy of Sciences and Arts, he has received recognition for his contributions to educational and cultural research. He serves on the German UNESCO Commission's Culture Committee, its Selection Committee for Intangible Cultural Heritage, as well as expert on digitalization for UNESCO, contributing to visibility, evaluation processes and policy frameworks in these fields.

In his international publications such as "Spectra of Transformation: Arts Education Research and Cultural Dynamics" (Waxmann, 2018), "Cultural Sedimentations—Ethnography on the Materiality and Historicity of Aesthetic Practices" (Routledge, 2020), and "Cultural Sustainability and Arts Education" (Springer, 2023), Jörissen focuses on the transformative dynamics of culture and education. An edited volume on "Youth, Citizenship and Cultural Education" is forthcoming (Springer, 2025).

Outside of his academic pursuits, Benjamin Jörissen loves exploring new and innovative forms of music making, e.g. digital transitions of analogue instruments. His passion lies in collaborative thinking – within the UNESCO Chair team, with colleagues, and especially with his family – reflecting his conviction that knowledge and understanding emerge through relationships.

http://joerissen.name, http://ucdcae.fau.de, https://www.linkedin.com/in/joerissen/

Prof. P. L.O. Lumumba

Prof. P.L.O. Lumumba is a holder of an LL.D (Doctor of Laws) on the Law of the Sea from the University of Ghent, Belgium, Master of Laws degree and Bachelor of Laws degree from the University of Nairobi. Prof. P.L.O. Lumumba holds an honorary Degree of Doctor of Letters (D.Litt.) (Honoris Causa) from the University of Cape Coast in Ghana. He is also a holder of the Degree of Doctor of Science (DSc) (Honoris Causa) from Bells University of Technology in Nigeria. He has been trained on Humans Rights at the Institute of Advanced Legal Studies University of London in England, Humanitarian Law at the Raoul Wallenberg Institute of the University of Lund in Sweden and on International Humanitarian Law in Geneva, Switzerland. He is an Advocate of the High Courts of Kenya and Tanganyika and a Certified Mediator. He is a Fellow of the Institute of Certified Public Secretaries of Kenya FCPS (K), a Fellow of the Kenya Institute of Management (FKIM) and Honorary Fellow of the African Academy of Sciences (FAAS). He is the Chairman of Farafina Investment Group in Monrovia, Liberia and Economic Strategic Growth and Development Initiative for Africa based in Nigeria.

He is the immediate former Director and Chief Executive Officer of the Kenya School of Law, a former Secretary of the Constitution of Kenya Review Commission and a former Director of the Kenya Anti-Corruption Commission (KACC). He is the Founding Trustee of the African Institute for Leaders and Leadership (AILL) and founding Chairman of the Association of the Citizens Against Corruption (ACAC). He was the Founding Dean, Kabarak University School of Law, a former lecturer at the University of Nairobi (UON), the United States International University (USIU Africa).

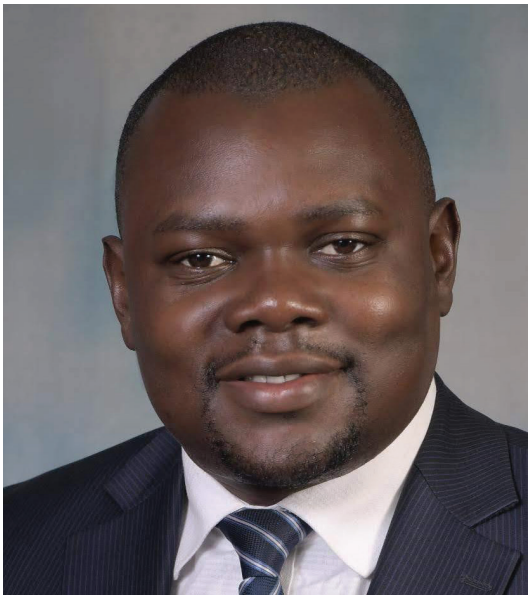
He is a seasoned legal practitioner who has written several books, articles, received numerous International Awards and delivered numerous lectures on diverse subjects both locally and internationally.

Prof. Maharaj Vi jay Reddy

Professor Maharaj Vijay Reddy is Associate Dean (Research and Knowledge Exchange) for the Faculty of Arts, Business and Social Sciences at the University of Wolverhampton UK. As principal investigator and co-investigator, Vijay's interdisciplinary projects were commissioned by a range of national and international organizations, including UNESCO (2002-03), Rufford Foundation (2002), Royal Geographic Society (2004), UNESCO (2005), British Academy (2007), British Academy (2009), Higher Education Innovation Fund (2010-12), Great Britain Sasakawa Foundation (2013), British Council (2015), British Council (2019-2022), PRME UK & Ireland (2023), PRME UK & Ireland Secretariat (2023-26), and others. As Professor of Sustainable Development, his contributions have attracted the attention of practitioners, peers, professional associations, and some of the international policy agencies driving sustainability practices, business resilience and poverty reduction (e.g., United Nations Division for Sustainable Development, UNESCO and the Intergovernmental Oceanic Commission, UNEP Sustainable Consumption and Production Branch, and the United Nations Institute for Training and Research).

Dr. Ron Eglash

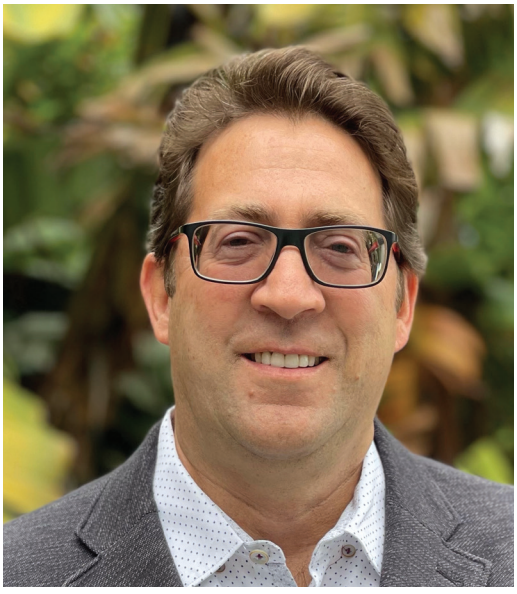
Dr. Ron Eglash is a Professor in the School of Information at the University of Michigan. He received his B.S. in Cybernetics, M.S. in Systems Engineering, and PhD in History of Consciousness, all from the University of California. His work as a Fulbright Scholar in west Africa was published as the book African Fractals. Later research, funded by the National Science Foundation and OpenAI Foundation includes the development of ethnocomputing, the technology appropriation framework, and generative justice. In 2024 he was honored with the title Professor of Diversity and Social Transformation.



Eng. Wilfred R. Oginga

Eng. Wilfred R. Oginga, Director, Urban Roads Planning & Design at Kenya Urban Roads Authority (KURA)

Eng. Oginga holds a B.Sc in (Civil Engineering); M.Sc in (Transportation Planning and Engineering) and MA (Public Policy & Management).

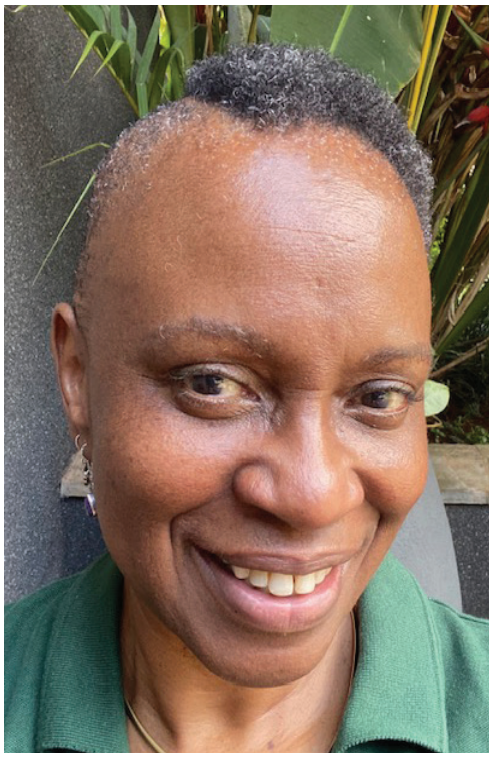


Mr. Mark Davis

Mr Mark Davis a pioneer in Generative Design and Artificial Intelligence, has had stints at Autodesk, Palm and MetaDesign. A seasoned technologist, proficient in turning concepts into simple and impactful products, Mark's career has been defined by his ability to lead during times of technological change, steering organisations towards useful innovations. Through his visionary leadership, advancements have been made across diverse industries as architecture, manufacturing, aerospace, construction and entertainment.

Mark has orchestrated impactful collaborations with industry leaders such as Mercedes Benz, NVIDIA, Netflix, NASA-JPL, Lawrence Livermore National Labs, Microsoft, Philippe Starck, and more. Currently, he is leveraging the power of Gen AI workflows for customers at markdavisdesign.com. He is a frequent judge of international design competitions and currently holds 30-plus international and US patents.

SPEAKER(S)



Prof. Suki K. K. Mwendwa

Prof Suki describes herself simply as a transformation education facilitator. But she is known for many more things: she is a professor of design, an experienced education administrator, a manager, an accomplished dance teacher and choreographer. In addition, she holds certifications in metaphysical energy management and soul profiling.

As an educationist, her extensive teaching experience spans major universities in Kenya where she incorporates design principles within a Human Ecology framework, addressing social and cultural aspects within the built environment and their human-environmental impact. She is dedicated to integrating design thinking into her work and teaching, emphasising the development of relevant competencies among her students, and within communities, industry, and the creative economy.

Notably, Suki was instrumental in founding the former School of the Arts and Design, of about 10 years, at the University of Nairobi and has served as the former Deputy Vice Chancellor in charge of Technology Innovation and Partnerships at the Technical University of Kenya. In these roles, she has fostered strategic partnerships with industry, global and local research consortiums, higher education institutions, and local communities to promote solutions to sustainable living.

Suki has delved deeply into self-reflection, drawing from over 30 years of experience in dance, as well as training and certification as a teacher in psychic tools-quantum mechanics and Energy Management at Berkeley Psychic Institute, USA, for over 20 years, and soul profiling reader/coach from the UK, presently for about five years. These experiences have equipped her with the tools to gain self-awareness, facilitate transformation, and seek answers to existential questions.

Dr. Charity Waywa

A Kenyan chemist and researcher, who serves as a Corporate Strategy Associate at International Business Machines (IBM), based in the Greater New York City area.

Dr. Charity is an experienced Researcher with a demonstrated history of working in the information technology and services industry. Strong research professional with a Doctor of Philosophy (PhD) focused in Medicinal and Pharmaceutical Chemistry from Purdue University.

Mr. Darrel Rhea

Darrel Rhea, Designer, Artist and photographer

Speaker for the Human-Centric Design and User Experience session

Darrel Rhea is a seasoned executive with a unique combination of expertise and 40 years of global experience in a number of business domains. He has been recognised internationally for his thought leadership in Business Strategy, Innovation, Human-centered Design, Customer Insight, and Intellectual Property. He uses a wide range of tools to make images that attempt to evoke emotion and beauty. He uses photography, digital painting, a variety of AI enabled tools to create visual images. He has been at the forefront of the professional practices of Design Management and is an industry champion who speaks widely around the globe.

Rhea has been retained to develop the system architecture for applying and coordinating all of the design disciplines (industrial design, graphic design, interactive design, architecture, service design, experience design, etc.) for dozens of major multinationals, and has orchestrated the work of hundreds of designers on global projects. He is co-author of the book Making Meaning: *How Successful Businesses Build Meaningful Customer Experiences* and has taught executive development classes on Human-centered Design for thousands of designers on five continents. He has served on the advisory board of the Collaborative at MIT, the Department of Human-centered Design and Engineering at University of Washington, and Weatherhead School of Management. He has also advised governments on Design Management.

Eng. Margaret Ogai, CE, FIEK

Eng. Margaret Ogai, CE, FIEK
Registrar/Chief Executive Officer

Masters degree in Business Administration (Procurement) and Bachelor Science in Civil Engineering from the University of Nairobi.

Eng Margaret Ogai is a registered Consulting Engineer with the Board (EBK) and a Fellow Member of the Institution of Engineers of Kenya(IEK).

She has over 30 years wealth of experience in Infrastructure Development and Management that cuts across both public and private sector.

She is responsible to for the implementation of the Boards strategic goals and the management of its resources including giving direction and leadership for the achievement of its mission.

Ms Christtine Nguku, OGW

Christine Nguku is the Assistant Director, in charge of Training and Curriculum Development at the Media Council of Kenya (MCK). She is a seasoned journalist with more than 25 years experience, a media and communication trainer, and has served as a journalism lecturer.

Christine worked as a journalist and editor at KTN between 1991 and 2004. In 2005 she left the newsroom to become a founding Director of a local language radio station, Mbaitu FM, where she served until 2011.

She progressed into academia as a journalism lecturer at Kenya Methodist University (KeMU), Nairobi Campus. Christine has been a career mentor and manager of the World Association of Newspapers and News Publishers (WANIFRA) Women In News (WIN) East Africa programme 2015-2018. She was Secretary to the Kenya Editors' Guild (KEG) 2017-2018 and Vice Chair of the Association of Media Women in Kenya (AMWIK) 2017.

She holds a Masters degree in Contemporary Warfare and Peace from the University of Sussex, United Kingdom.

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Theme:

AI Media Innovations, Applications, Visual Culture, Challenges, and Future Trends

Motto:

AI-Resilient and Sustainable Livelihoods in Africa

Sub themes:

1. Age of AI; Ethics, Inclusivity and Social Impact
2. AI and the Future of Autonomous Systems.
3. AI Convergence: Bridging Disciplines for a Sustainable Future
4. AI in Healthcare; Transformation, Innovation and Future Trends
5. AI in Education Ecosystems
6. Digital Transformation: AI and ICT
7. Engineering the Future: AI-Driven Innovations and Solutions
8. Human-Centric Design and User Experience

Design Thinking Hackathon
Business and Technology for Innovation

Pre-Event Workshops

Date	Activity	Facilitators
15th to 17th November 2024	Hackathon on Design Thinking	Ansa Africa- Business Consulting andServices Prof. Wanja Mwaura Tenambergen- Riara University. Dr. Jacqueline Okeyo, TU-K

Day 1: Monday 25th November, 2024 Pre-Event Workshop at Kenya Innovation Agency at The Edge Convention Centre

Time	Activity	Presenter	Moderator	Rapporteur
8.00am-5.00pm	**Exhibition**	Dr. Jane Otieno , Winnie Ruto, Irene & Students		
9.00am - 400pm.	**Workshop on Research Methods & Proposal Writing** We will be covering three subjects: 1. Introduction to academic writing 2. Different aspects of dissertation writing 3. Writing for publication	Dr. Peter Samuels from Birmingham City University Chair of sessions Mr. Ogato Orina Rapporteurs: Margaret Okumbe & Lily Kimaru		
9.00 am- 11.am	**Talk on the Motto-** AI-Resilient and SustainableLivelihoods in Africa	Prof. Suki and Dr. ErnstWagner	Dr. Mary Clare Kidenda	Dr. Jane Otieno
11.00 am-4.00 pm	**World Café -**"Generative AI as Cultural andEducational Agent: Navigating Diversities, Confronting Biases**"** **Hybrid Workshop**	Prof. Dr. Benjamin Jörissen Vanessa Baumann M.A	Dr. Avi Sooful Dr. Patrique deGraft-Yankson	Esther Kute
4-.00 pm- 5.00pm	**Discussions & debates**- AI-Resilient andSustainable Livelihoods in Africa	Dr. Ojenge & Prof. Odoch Pido	Dr. Avi Sooful	Emman Gwaro
Day 2: Tuesday 26th November, 2024				
8.00am-5.00pm	**Exhibition – Kenya Innovation Agency** TUK & EVC	Dr. Jane Otieno , Winnie Ruto, Irene Wambua & Students		
8.00am-5.00pm	**Tour** – Museum & Cultural Centers	Dr. Jacqueline Okeyo		
Day 4 : Thursday 28th November, 2024 at Kenya Innovation Agency				
9:00 am- 1:15pm	**AI Summit - Academia Roundtable** **AI in academia and commercialization:** Maasai Mara University and Technical	Speakers: Dr.Winston Ojenge Prof. Suki Mwendwa (Moderator)		
	University of Kenya. Including Poster Visit			

Main Conference and Exhibition at The Technical University of Kenya

Day 3: Wednesday 27th November, 2024. Main Conference. Technical University of Kenya

Time	Activity	Presenter	Moderator	Rapporteur
8.00 am- 8.15 am	Arrival and Registration	Secretariat	Secretariat	Secretariat
8.15am - 8.20am	Kenya National and EAC anthems	TU-K Choir	Dr. Mukasa	
8.20am- 8.30am	Introduction & Opening Remarks - ProgramDirector	Prof. Suki	Jane Otieno	
8.30am – 9.30am	**Opening Ceremony** • **Director – School of Creative Arts and Media Deans** • Executive Dean, Faculty of Applied Sciences and Technology • Executive Dean Faculty of Engineering and Built Environment • Executive Dean Faculty of Social Sciences and Technology • D.V.C Institutional Advancement and Enterprise -Prof. Paul M. Wambua • D.V.C Academic and Student Affairs – Prof Francis K. Gatheri • D.V.C Research and Technology Development- Prof Alfred I. Orina • **Vice-Chancellor** Dr. Prof. Ing. Benedict M. Mutua • **EVC Chair**– Dr. Avi Sooful • **Secretary General** CEO KNATCOM UNESCO • **Regional Director and Representative UNESCO** -Regional Office for EasternAfrica	Prof. Omondi Oketch	Jane Otieno	
9.35am -10.10am	**Key Note: Age of AI: Ethics, Inclusivity andSocial Impact**	Prof. P. L.O. Lumumba	Dr. Ernst Wagner	
10.10am-10.30am	Group Photo	Secretariat		
10.30am-10.40am	House Rules	Dr. Jane Otieno		
11.00am - 12.00pm	**Introduction of Motto: Resilient and SustainableLivelihoods in Africa.** Camp Fire	Prof. Suki Mwendwa & Dr. CharityWayua	Dr. Avi Sooful	
12.00pm- 12.10pm	**Wrap Up**	Julius Maina	Dr. Avi Sooful	
12.10pm- 12.25pm	Break			

12.25pm-1.15pm	**Session A: AI in Education Systems**		Michela Almog	Cindy Gor
	Imagining Ubuntu Futures: Exploring the Possibilities of Using AI in Art Educational Programming & Virtual Exhibition Development.(Digital Lab Design)	Amber C. Coleman; Lucy Mugambi, Mercy Wanduara; George Vikiru		
	A Collaborative Digital Teaching and Learning Lab: A Pilot Project in Design Education ((DigitalLab Design)	Ulrike Brückner Claudia Mai		
	Enhancing pedagogy using A.I and Big data analysis. Contextualizing Data Visualizations of Sustainability themes	Andrew Amayo		
	Baudrillard and AI: A Project-based Case Study of Simulacra as a Predictor and Facilitator of AIgeneration in South African Design Curricula	Kyle Rath		
	Session B: Age of AI: Ethics, Inclusivity and Social Impact		Dr. Orpha Nyakundi	Grace Gatere
	Social Media Images as Activist Tools: A Retrospection on Visual (I) Literacy during Kenya's2024 Anti- Finance Bill Protests	Claudia Onsare		
	When the Revolution Comes, tell them it was Craft:A Sociopolitical Critique of AI	Runette Kruger		
	Platonic "Mimesis". Tik-Tok and Libertarianism inthe Misinformation era	Dr. Julius Ombui Bosire		
	AI-Infused Arts: What Do Contemporary Artists Have to Say About Artificial Intelligence?	Dr. Phil Karin Wimmer		
	Artificial Intelligence and The Copyright Dilemma: The Case of Photography	Grace Njeri Gatere		
	Session C: AI -And the Future of Autonomous Systems		Dr. Patrick Kasyula	Dr. Jacqueline Okeyo
	Practice Implications of Artificial Intelligence (AI) for Kenya's Universities: A Boon or A Bane?	Ruga, Stephen N. M		
	Exploring the Intersection of Creativity and Technology in the Jewellery SME Sector of Tshwane, South Africa	Xolani Mayikana; Sipho Mbatha; Nina Newman; Pfunzo Sidogi		

	Session D: Convergence: Bridging Disciplinesfor a Sustainable Future		Prof. Maharaj Vijay	Ogato Orina
	Can AI supply intellectual wisdom?	Lydia Muthuma		
	Legal Frameworks for AI-enhanced Renewable Energy Solutions: The Ngong Hills Wind Turbines	Jane Owino Bukachi		
	Session E: AI in Education Ecosystems			
	The Age of AI and Separation: Reflections of A Students Exhibition	Esther Kute		
	Pencils meet Pixels: Integrating AI into DrawingPedagogy at the University of Education-	Ebenezer Kow Abraham; Theophilus KwesiMensah; Edward Baani Buxton		
	User Experience and Satisfaction In Ai-Powered Information Retrieval In Academic Libraries In Kenya	Benjamin Opicho Kemboi Dr. Stanislaus Agava		
	Session F: Digital Transformation: AI and ICT Reshaping Industries		Dr. Joseph Kedogo	Lily Kimaru
	An analysis of the impact of design thinking on AI-driven Facebook advertising strategies: A case of Safaricom advertisements	Margaret AyumaOkumbe		
	Meta-Analysis of Intersection of AI and Creativityin the Arts	Isaac MuiruriGachanja		
1.15pm-.15pm	Lunch break			
2.15pm-.15pm	**Key Note: Generative Artificial Intelligence and the Politics of Perception:Artistic Practice as Critical Intervention**	Prof. BenjaminJörissen	Prof. Omondi Oketch	Lydia Muthuma
3.15pm- .00pm	**Session G: AI in Education Ecosystems**		Prof. Runette Kruger	Margaret Okumbe
	AI-Driven Personalized Learning Pathways:Enhancing Student Engagement	Dimpho Kgakgamatso Oganetse		
	A Brave Leap? Ethical Adoption of AI amongstDiploma in Architecture Students in Kenya	Joel Oyuga &Aziz Hussein		
	Articulating Imagery: The Interplay of Visual Arts and Language in Transforming Perceptions	Teresa Atieno		

	Session H: Age of AI: Ethics, Inclusivity andSocial Impact		Prof. Omondi Oketch	Lily Kimaru
	Artificial Intelligence, African Culture, and Ethics: A Call for Inclusion	Cyrus Munene Murithi PatrickMaison Dikirr		
	The Vernacular Aesthetics of Africana DigitalHumanities	Ng'ang'a Wahu-Muchiri		
	Artificial Intelligence-Generated Art and Implications for the Creative Process	Adonijah Ombura; Oluwaseun Isaac Abati		
	Mwisho Wa Reli: Extending The Language of Resistance and Representation	Nguye Flora Mutere		
	Session I: AI in Healthcare: Transformation,Innovation and Future Trends		Prof. Odoch Pido	Esther Kute
	Application of AI in Healthcare in Africa: Challenges and Opportunities	Francis OchiengOguya		
	Harnessing AI for Healthcare Innovation; CurrentApplications and Future Trends	Orina Ogato		
	Artificial Intelligence (AI) in Healthcare	Amwayi Queenslay Musibega; Beryl Anyango		
	Session J: Digital Transformation: AI and ICT Reshaping Industries		Dr. Ernst Wagner	Grace Gatere
	Adobe Translating the Southern African Late Iron	Sikho Siyotula-		
	Age-	Siegemund		
	Balancing AI Tools and Students' Efforts in HigherEducation: A Case of Umaru Musa Yar'adua University-	Abubakar Sani		
	Graffiti Art and Artificial Intelligence (AI): Evaluating the Efficacy and Adoptability of AI inGraffiti in Nairobi City Job	Allan Wefwafwa; Dr. Jacqueline Okeyo		
	Session K: AI in Education Ecosystems		Dr. Jacqueline Okeyo	Margaret Okumbe
	Toward a Framework for the Use of Learning Management System (LMS) for Kenya's PublicEducation System	Keith Maleche;Hellen Maleche		
	The Impact of Physical Education on PsychologicalWellbeing	Peter ChukwunweikeIwuno		
	Exploring Cultural Aspects of Visual Metaphors inDoctoral Student Training	Peter Samuels		

	Session L: Engineering the Future: AI-Driven Innovations and Solutions		Prof. Christian Römmelt	Cindy Gor
	Impact of Application of AI Technologies in BridgeDesign, Construction and Maintenance: A Case Study of the Mombasa Gate Bridge Project	Dorcas Sinde; Maureen Wangui;Samuel Ogege		
	Leveraging AI's Transformative Capabilities toExpedite SDGs Achievement in the Clothing Industry of South Africa: Implications forPolicymakers	Asithandile Zixesha; Sipho Mbatha		
	Performance Characterization of a Prototypeparabolic dish Solar Concentrator	Kawira M. K;Jackson M.		
	Intelligent Gantry Crane System Using Fuzzy LogicController	Kenneth Nguru; J.Muga; L. Mukhongo; E.Jobunga		
	Intelligent Transport Systems & The Traffic Brain: Composite Real-Time Data Sourcing, Aggregation And Integration Into Actuated Traffic Demand Models in Transforming Urban Mobility in Nairobi.	Eng. Merin Koitalek		
4.00pm-5.00pm	**Keynote- Engineering the Future: AI – Driven Innovations and Solutions**	Mark Davis	Dr. Fred Mbogo	Ogato Orina

Day 4: 28th Thursday November 2024- Opening of the Exhibition/Book Launch				
Time	**Activity**	Presenter	Moderator	Rapporteur
8.00am-8.15am	Arrival and Registration	Secretariat		
8.20am- 8.50 am	**Engineering the Future** -AI-Driven Innovations and Solutions **Digital Transformation**: AI and ICT Reshaping Industries	Schneider Electric	Dr. Patrick Kasyula	Dickson Wambaa
9.00am-9.45am	**Key Note: Engineering the Future -AI-Driven Innovations and Solutions**	Eng. Oginga- Director KURA	Prof. Eric Ogur	Lydia Muthuma
9.45am- 10.30am	**Speaker: AI and Cultural HeritagePreservation**	Prof. Maharaj VijayReddy	Prof. Omondi Okech	Dickson Wambaa
10.30am-11.30am	**AI in Action:** Shaping the Future Cultural Heritage, Innovations and Engineering Solutions.	Eng. Margaret Ogai, CE, FIEK, Registrar/ CEO;EBK Dr. Tony Omwansa-C .E . O KeNIA Dr. Ernst Wagner-Founder & Secretary EVC Ms Christine Nguku, OGW-Assistant Director, Media Council of Kenya.	Prof. Eric Ogur	Lydia Muthuma
11.30am-11.45. am	Health break			
11.45am – 12.45pm	**Session M (EVC): AI - In EducationEcosystems**		Prof. Runette Kruger	Dr. Jane Otieno
	An Argument for Introduction of AI Education at an Early Age for DigitalEquity	Basweti Nobert Susan Wangari Gitu		
	Left Behind: Pedagogy and Learning Gaps Consequential to AI Under-Deployment in Kenyan Universities	Dan Okoth		
	Developing Critical Thinkers in The Aesthetic Field: Balancing Students Love for AI & Maintaining Academic Integrity	Kweku Holman		
	A Critque of AI-Influenced East African VisCom	Martin Khamala, Odoch Pido and Donna Pido		

	Session N: Engineering the Future: AI–Driven Innovations and Solutions		Dr Fred Mbogo	Habby Amelia
	Impact of Application of AI Technologies in Bridge Design, Construction and Maintenance: A Case Study of the Mombasa GateBridge project	Samuel Ogege, Dorcas Sinde, Maureen Wangui,		
	Between AARCR2 and RDA, what has changed occurs on them?	Abdullahi Mohammad Ibrahim; Mohammed Lawal Akanbi; TawakalituRaufu Balogun		
	The Disruptive Potential of Artificial Intelligence in Kenya's Architecture, Engineering, and Construction Sector: Assessing Readiness and Impact	Joseph Kedogo andBrian Boit		
	Session O: AI Convergence: Bridging Disciplines for a Sustainable Future		Dr. Patrick Kasyula	Ogato Orina
	Leveraging Artificial Intelligence for	Kenneth Odhiambo		
	Environmental Sustainability: Applications in Biodiversity, ClimateChange, Waste Management, and Pollution Control-	Otieno, Alice Mutai		
	Artificial Intelligence and the Artist, Improved Artistic Creation in the Digital Age in Cameroon	Onana Amougui Juste Constant		
	Artificial (un)Intelligence: Exploring the capabilities AI in African ImageGeneration	Patrique de Graft-Yankson		
	Session P: Digital Transformation: AI and ICTReshaping Industries		Dr Lydia Muthuma	Margaret Okumbe
	Leveraging Artificial Intelligence (AI) in the Provision of Information Services	Vivienne Nandokha		
	Cyber Pragmatics	Macy KalemelaLumasia		
	Exploring the Influence of Digital Technological advancements on adopting new approaches and methods to filmmaking in South Africa.	Mncedisi Mbombo		
	Adobe Translating The Southern African Late Iron Age	Sikho Siyotula-Siegemund		

	Session Q: Engineering the **Future: AI-Driven Innovationsand Solutions**		Prof Omondi Oketch	Lily Kimaru
	Assessing the Transport Equityand Accessibility Gap Closure through Inclusive Road Design; Case Study, Nairobi, Kenya	Opuge Ephraim Obuolloh		
	Artificial Intelligence in the Construction	James Muimi Nzangi		
	Industry in Kenya: Trends, Opportunities and Challenges			
	AI and Adaptive Architecture for Airborne Pandemic Preparedness inChurches	Joseph Kedogo and Kevin Odek		
	Imaginative Framing of ClimateChange Policy Narratives using Artificial Intelligence-	Grace Anyango Ouma		
	Convolutional Long Short-TermMemory and Support Vector Machines Model for Violence Detection in Surveillance Footage	Samuel M. MuiruriMark Okong'o ; David Mwathi		
12.45- 1.45 pm	Lunch Break			
1.45 pm -2.15pm	Fashion Show	Buru Buru Institute of Fine Art- TUK	Esther Kute/ KinaroIrura/ Lilian Ouko	
	Entertainment	TUK	Dr. Mukasa	
2.15pm-3.00pm	**Book Launch**		Prof. Suki Mwendwa	Dr. Jacqueline Okeyo
	Background	Dr. Mary ClareKidenda		
	EVC Brief	Dr. Avi Sooful – Chair		
	Brief on the Books	Prof. Runette KrugerDr. Peter Samuels Prof. .Suki Mwendwa	Prof. Christian Römmelt	
	Book Launch	The Vice Chancellor TUK	Prof. Omondi Oketch	
3.00pm-3.45pm	**Key Note: AI and Cultural Heritage Preservation**	Prof. Ron Eglash	Prof. Christian Römmelt	Michela Almog
3.45pm – 5.00pm	**Official opening of the Exhibition**	Prof. Maharaj VijayReddy	Dr. Ernst Wagner/Dr. Jane Otieno	Habby Amelia
3.00pm-3.45pm	**Key Note: AI and Cultural Heritage Preservation**	Prof. Ron Eglash	Prof. Christian Römmelt	Michela Almog
3.45pm – 5.00pm	**Official opening of the Exhibition**	Prof. Maharaj VijayReddy	Dr. Ernst Wagner/Dr. Jane Otieno	Habby Amelia

	Tour of Exhibition stands	Students, Exhibitors and Guests	Dr. Ernst Wagner/ Dr. Jane Otieno	
Day 5: Friday 29th November 2024				
Time	**Activity**	Presenter	Moderator	Rapporteur
8.00am-8.15am	Arrival and Registration	Secretariat		
8.15am 08.20am	Announcements			
8.20- 9.00am	**Speaker: AI in Education: Lessons fromthe U.S**	Dr. Henry Mukhwana	Dr. ErnstWagner	
9.00am-9.45am	**Session R (EVC): AI in EducationEcosystems**		Dr. Jane Otieno	Aziz Hussein
	Divergent Perspectives on ChatGPT andIts Impact on Social Research: Demystifying Myths and Misconceptions. A case study of undergraduate students in the School of Architecture in JKUAT	Dindi M.Adeline; Okuta Fredrick		
	Integrating Emerging Technologies (e.g.,AI, Blockchain) in Business Education Curricula-	Ogochukwu Gloria Umelue		
	Enhancing Kenya's Resilience by Integrating Artificial Intelligence in Design Education	Mary Clare AkinyiKidenda		
	Session S: AI Convergence: BridgingDisciplines for a Sustainable Future		Dr. Patrick Kasyula	Dr. Jacqueline Okeyo
	The Role of Artificial Intelligence in Enhancing Financial Analysis and DecisionMaking for Sustainable Development	Michael Jimoh Amedu; Rachael Okwudili Iliemena		
	Fortification of Pro Unga by use of Ruspolia Deferens	Priscilla Munga; AroisaOkero Cynthia Mutisya; David Mugo; CedricMatunda		
	A Biofertilizer Fortified Hydroponic System as an Alternative to Conventional Farming Methods	Ruth Wambui Muriuki		

	Session T: Digital Transformation: AI and ICT Reshaping Industries		Dr. Joel Ongoto	Grace Gatere
	Demonstrating the Utility of AI in Artistic Practice and Process at Tafaria Centre forthe Art	George Waititi; Havi Murungi		
	Arguments against AI: The Play Oret byCosmas Bii as a Perfect Example of Kenya's Theatre at Crossroads	Fredrick Mbogo		
	Transforming Library Services: A Comprehensive Literature Review of Artificial Intelligence Applications, Implications, and Strategic Integration	Nyalwal, Gombe GeorgeEric		
9.45am- 10.30am	**Key Note: Human – Centric Design and** **User Experience**	Darrel Rhea	Prof. Runette Kruger	Dr. Jane Otieno
10.30 – 12.30	**Session U- Human – Centric Design andUser Experience**		Prof. OdochPido	Esther Kute
	Addressing Bias in AI Systems: A Framework for Cultural Integration	Donna Pido, Martin Khamala, Odoch Pido		
	From Tradition to Innovation: AI-Driven Heritage Building Information-	Joseph Kedogo and Brian Boit		
	Exploring Opportunities for AI in HumanCentered Design Education	Henry Mukhwana Wanakuta		
	Curatorial as the critical creative artistic medium-	Nombeko P. Mpako		
	A critical assessment of stage visual culture and human centric tools in theatreproductions in Ghana	Margaret Lamiokor Lamptey		
	Revisiting the Maneaters of Tsavo: Situating the Lions in Contemporary VisualCulture-	Sam Hopkins; Marian NurGoni		

10.30 -12.30	**Session V: AI in Education Ecosystems**		Prof. Christian Römmelt	Ogato Orina
	Understanding the Social-PsychologicalFactors Shaping Educators' Trust and Adoption of Artificial Intelligence in Higher Education-	Tigere Muringa		
	Using AI to Bridge the Gap between Textual Narrative and Visual Expression:Reflecting on an Interior Design Student Project	Emmerencia Petronella Marisca Deminey; Elana van der Wath		
	Exploring Design Education, the DynamicNature of Culture, and the Influence of AI on the Outcome of Heritage	Suki Mwendwa		
	How Students Engage with AI – Observations from EVC's Virtual Exhibition	Ernst Wagner, Dr. Jane Otieno		
	Benefits and Application of Artificial Intelligence (AI) for Information Services Delivery in some University Lbraries in Katsina State, Nigeria	Mudassir A.Abule		
	Session W: AI in Education Ecosystems		Dr. Fred Mbogo	Margaret Okumbe
	Afrikan Visual Culture and the design curriculum in the age of AI	Herman Botes		
	The use of AI in arts education: A Didactic Tool forSensitizing Students and for the Detection of Technology Assisted Writing in Arts Education-	Runette Kruger		
	Transforming Library Services: A Comprehensive Literature Review of Artificial Intelligence Applications, Implications, and Strategic Integration	Nyalwal, Gombe George Eric		
	Radio Frequency Identification (RFID) in Academic Libraries: State of the Art	Murtala Musa		
	Organic Fertilizer Blend That Mitigates the Absorption of Heavy Metals and Enhances Plant Nutrition	Whittney Makena Mutwiri		

12.30pm-1.45pm	Lunch Break			
2.00pm 4.00pm	Summary from Session Chairs & Way Forward	Chairs of Sessions A to W	Prof. Suki	Ernst Wagner
4.15pm-4.30pm	Closing Ceremony	DVC- Prof. Alfred Orina	Dr. Mary Clare Kidenda / Prof. Omomdi Oketch	
	Kenya National & EAC Anthems			
4.30pm-6.00pm	EVC Members Hybrid Meeting		Dr. Avi Sooful	

SUB THEME 1

Age of AI; Ethics, Inclusivity and Social Impact

1. MWISHO WA RELI: EXTENDING THE LANGUAGE OF RESISTANCE AND REPRESENTATION

By; Nguye Flora Mutere
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Abstract

Everyday lived experience in an ethnographic study was gathered from nine actors that lived in Nairobi's Railway estates. Mwisho wa Reli is the name given to the end of a physical one metre gauge rail line located at Namasoli Halt, Butere and becomes the title of an exhibition of suppressed community memories of social and cultural knowledge. This paper critically examines the culturally constructed meanings or values - attached to everyday objects, practices and symbols of the liminal period from 1950 to 1970. Mwisho wa Reli then attempts to reconcile memory, experiences and oral accounts using technologies to embody meaning of the sensorial experience of Nairobi. Engaging technological aesthete ways of studying lived experience and what is produced is a materiality of reading into landscapes. These assets consist of scenery, props and production that are collected, curated and assembled seeking to answer;

"*What are the experiences and activities that characterised Nairobi everyday life?"*

"How can they be attended to and represented using AI tools and practices?"

Conceptually Marxist cultural theory and Phenomenological traditions frame the location of visual narratives and its relation to society in diverse sensorial ways. Hence, through this process a collection emerges that mediates between historical legacy and shaping and defining contemporary society. A materiality emerges as displays and significations that provide a counter discourse. This shapes possibilities to extend representation and resistance as a subversion of dominant colonial ideologies at the Nairobi Railway Museum. Mwisho wa Reli then co creation by retrieval and mobilisation of community memory in order to negotiate discourse and narratives of ways of being and belonging in the world.

Keywords: Spatial Aesthetics, Community engagement, Co-production

2. AI-INFUSED ARTS: WHAT DO CONTEMPORARY ARTISTS HAVE TO SAY ABOUT ARTIFICIAL INTELLIGENCE?

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Abstract

Contemporary artists follow the developments in artificial intelligence and contribute their perspectives to current discussions. In particular, they deal with questions of image generation, creativity and the use of AI as an artistic tool, as well as the dangers that artificial intelligence entails, such as deepfake messages or the enormous energy consumption. Hito Steyerl emphasizes two key aspects. First, the expectations of so-called artificial intelligence are oFTen overrated; she refers to it as "artificial stupidity" to highlight the misleading nature of the term "intelligence." Second, she points out that programmers are now making invisible soFTware algorithms visible through images. To understand and interpret these images, the expertise of artists should be utilized. In her work *Power Plants*, Steyerl displays colorful, intertwined plants on sixteen monitors, created with the help of AI, representing an artificial garden of the future. These neural networks programmed by Steyerl continuously generate the next individual image based on the current video image. Each plant supposedly predicts its own future – in exactly 0.04 seconds (at 24 frames per second).[1] Tamiko Thiel, an artist, who based in Munich, has been creating media artworks for 1 over 30 years, explores the interplay of place, space, body, and cultural identity in politically and socially critical works. In her AI installation *Lend Me Your Face*, Thiel creates deepfake videos from single photos of participants. The visitors' faces are mapped onto videos of prominent public figures and displayed on various screens. Visitors experience a very personal encounter with how easily the most intimate and yet public part of the self, the face and the emotions it expresses, can be manipulated and placed in contexts beyond their control. The deepfakes are displayed in large projections, confronting visitors with the manipulation and resulting alienation of their identity.

3. INTELLIGENCE-GENERATED ART AND IMPLICATIONS FOR THE CREATIVE PROCESS

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Abstract

The application of artificial intelligence (AI) to the discipline of art has resulted in substantial changes in how artistic expression is realized. As AI-generated art becomes increasingly common, it is vital to investigate its influence on the creative process as well as the larger ramifications for the art community. To get a better idea of how AI affects creative processes, this study looks at the dynamics from a theoretical point of view. The emergence of AI-generated art calls into question long-held beliefs about authorship, creativity, and ethics, raising basic concerns about the nature of art and the human role in its creation. This article seeks to address these issues by providing an examination of the interaction between human creativity and machine intelligence. The study methodology comprises an extensive review of the existing literature as well as a qualitative analysis of case studies and examples of AI-generated art. The research dives into the technical aspects of AI art production, especially how tools like Generative Adversarial Networks (GANs) and deep learning algorithms aid in the creation of new artworks. Furthermore, the research investigates the impact of these new technologies on traditional creative processes and the larger art sector. The findings suggest that AI technologies promote a collaborative interaction between artists and machines, promoting innovation and exploration. AI technologies boost creativity by automating repetitive tasks, enhancing efficiency, and increasing audience engagement. These advances demand a balanced strategy that integrates human creativity with AI capabilities, resulting in transformative potential for artistic inquiry and reshaping the future of creativity. Ultimately, the study aims to demonstrate the transformative potential of AI in artistic inquiry, reshaping the future of creativity and prompting a reevaluation of what constitutes art in the digital age.

Keywords: *Artificial Intelligence, AI-Generated Art, Creative Process, Art and Technology, and Digital Creativity*

4. ARTIFICIAL INTELLIGENCE, AFRICAN CULTURE, AND ETHICS: A CALL FOR INCLUSION.

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& Patrick Maison Dikirr
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Abstract

This paper explores the nature, reasons, and the implications of exclusion of African content, broadly construed, in the design, development, deployment and use of currently available artificial intelligence applications. We argue that Artificial Intelligence (AI) presents a potentially promising avenue for the achievement in Africa, as elsewhere in the world, of the sustainable development goals (SDGs): especially, but not only, poverty eradication (Goal 1); zero hunger (Goal 2); good health and well being (Goal 3); quality education (Goal 4); and, clean water and sanitation (Goal 6). In its current status, however, in which African content and African languages are conspicuously missing/ignored and/or forgotten, AI, in its conceptualization, design and development certainly accelerates the already existing exclusions, systemic discrimination and epistemic injustices. This exclusion manifests itself in variety of forms: in barring of African AI experts from attending and contributing in global AI conferences; in the lack of African cultural content in the design and development of AI applications; and, in the deliberate design of AI applications in Non-African languages. Despite the rapid pace of AI deployment in many facets of our lives, the issue of exclusion has not,

unfortunately, in the burgeoning literature, received in-depth and sustained scholarly attention particularly from an African perspective. Our primary objective in this paper is to therefore set the ground for in-depth scholarly research and conversations focused on the nature, reasons, and implications of Africa's exclusion in the design and development of artificial intelligent applications. But we are also interested in proposing ethical recommendations that would, if accepted, help ensure that African continent is substantially included in the conceptualization, design and development of AI applications which are intended to address Africa's monumental challenges.

Key Words: *Artificial Intelligence, African knowledge systems, Ethics, and Politics of Inclusion*

5. SOCIAL MEDIA IMAGES AS ACTIVIST TOOLS: A RETROSPECTION ON VISUAL (I) LITERACY DURING KENYA'S 2024 ANTI- FINANCE BILL PROTESTS

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Abstract

The advent of social media has seen a rise in online activist activities over the years; a space for inclusivity and impact. Social media has become a powerful tool for individuals and groups advocating for social, political, economic and environmental change. Political activism through social media was witnessed recently in Kenya following Kenya's proposed 2024 finance bill tabled by President William Ruto's administration in its annual budget legislation. The bill was marred by controversy because it proposed significant tax hikes. This saw organized resilience through social media by Kenya's youth, using X and Instagram platforms, to mobilize support, spread information organize peaceful street demonstrations meant to force authorities to drop the finance bill.

Visual content- photos and videos, were shared on X and Instagram to vividly highlight issues and provoke emotional responses triggering the youth to participate in the protests. These messages were spread rapidly through shares, and likes. This paper argues that images in political communication have an impact on a fundamental element of human reasoning. Online political activism capitalizes on this ability of images to shape behavior and attitude, to mobilize and connect with individuals or organizations supporting the same course.

How then are elements of digital literacy effectively utilized and navigated on these online platforms? This paper contextualizes images; it interrogates the complexities of visual (il)literacy in regard to how political images are packaged, and interpreted by their audiences on social media platforms. Content analysis will be used to analyze the rhetoric of imagery; to explore context, how visual elements communicate messages and influence audience by persuading, informing or evoking emotional responses to the audiences. It analyzes images as graphic and verbal. Graphic images consist of pictures while verbal images consist of descriptions and writing on the images.

Key Words: *Social Media, Visual literacy, political activism, Instagram, X.*

6. THE ARTIFICIAL INTELLIGENCE DISRUPTION IN THE CREATIVE INDUSTRY: KENYAN PHOTOGRAPHERS' COPYRIGHT DILEMMA

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Abstract

Photographers in the creative industry have relied on human talent to capture moments, tell stories, and evoke emotions. However, the advent of artificial intelligence has significantly disrupted this landscape. Photographic works are classified as Intellectual Property that is protected by Copyright law. Photographers are passionate about taking pictures, and the copyright belongs to the person who takes the photograph or exerts sufficient control of the work. It is a way for artists to gain economically. Copyright protection is awarded to original works, reduced to a fixed form, and has a modicum of creativity. AIs, on the other hand, are programmed to do what humans do; hence, a significant reduction in costs and enabling companies to save. The use of non-copyrightable AI-generated images brings this disruption into sharp focus. Hence a problem with most AI's role in the creative industry is twofold: it can serve as both a collaborator and a competitor. As a collaborator, AI can enhance human creativity in photography by offering new tools and possibilities. It can automate mundane tasks, allowing photographers to focus on the creative aspect of their work. When a new technology appears, constant balancing is required. AI has numerous benefits, opportunities, and challenges, particularly for photographers whose roles it might supplant. As AI continues to evolve, stakeholders in the creative industry must navigate this balance. The questions that arise in this paper are: 1) what are classified as photographic AI work? 2) How are Intellectual Property Laws related to picture generation? Kenyan courts have not yet deliberated upon the concept of artificial intelligence in copyright law in Kenya. Hence, there is no legislative and regulatory framework concerning artificial intelligence. The Data Protection Act 2019 and the Copyright Act 2001 do not mention artificial intelligence.

7. THE RIGHTS AND OBLIGATIONS OF ARTIFICIAL INTELLIGENCE SYSTEMS

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Abstract

The rise of artificial intelligence systems portraying human like intelligence in perceiving their environment and taking actions has led to a societal and economic shift towards increased automation, data-driven decision-making, and the integration of AI systems into various areas of life. While these systems are able to benefit society, they also lead to various ethical, legal, and safety challenges that need to be properly regulated. As a result, it has been an ongoing debate and discussion on the topic of what are the rights and obligations of Artificial Intelligence systems.

This paper identifies some of the long-term effects, ethical implications, and risks of Artificial Intelligence systems that prompt discussions about policies and legislation on the safe use of Artificial Intelligence Systems. It also considers the rights and obligations of artificial systems and developers of artificial systems, and how Artificial Intelligent systems are fully consistent with ethics, human rights, democracy, and the rule of law.

Based on the analysis of the Council of Europe Framework Convention on Artificial Intelligence and Human Rights, Democracy, and the Rule of Law and the Blueprint for an Artificial Intelligence systems Bill of Rights the paper evaluates the problem in taking accountability for liability arising from use of Artificial Intelligence and whether developing a bill of right for artificial intelligence may minimize harm relating to Artificial intelligence.

8. THE VERNACULAR AESTHETICS OF AFRICANA DIGITAL HUMANITIES

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Abstract

In *The Darker Side of Western Modernity* (2011) Walter Mignolo challenges the "double colonization of time and of space" (6). A decade later, Mignolo's edict unfolds in the realm of technology. Artificial intelligence and the emergent field of digital humanities thrive upon exploitation/subjugation of the African continent and the Global South. Across the Global South, Big tech has ingested trillions of data gigabytes, with minimal considerations to data security, intellectual property, or user privacy. It is this avaricious appetite that has spawned artificial intelligence and machine learning. Outside the global north, including across the African continent, data mining and the under-compensation of human labor for machine learning models go together. The acquisition of rare earth minerals, including cobalt from the Democratic Republic of Congo, has initiated ecological and humanitarian catastrophes. The vast natural wealth along the Copper Belt earns immense profits for global firms in the mobile device and electrical vehicle industries.

How can we re-fashion the aesthetics of Africana orature to imagine expansive and inclusive global futures in the digital realm? For example, oral storytelling depended upon the virtuosity of the narrator/performer. Ownership of the story did not preclude re-telling and even revising the plot. How can we transfer communal ownership of stories to a digital realm rife with concerns about proprietary data and copyright? Simultaneously, how do we protect African cultural artifacts and indigenous knowledges from an avaricious AI approach that ingests and co-opts ever larger quantities of artistic material from the Global South?

In this presentation, I return to the oral traditions of Eastern and Southern Africa and re-deploy their aesthetics towards a digital activism. I argue that Africana digital humanities leverage the vernacular aesthetics of folklore and empowers a teaching-learning citizenry towards the sustainability of water-based ecosystems. Such civic engagement is crucial not just across the Congo River basin, but also alongside the numerous small, unnamed waterways that serve as tributaries. The Congo region is central to any contemporary discussions of digital humanities, machine learning, and artificial intelligence. These spaces provide the essential minerals that power our technological future.

9. WHEN THE REVOLUTION COMES, TELL THEM IT WAS CRAFT: A SOCIOPOLITICAL CRITIQUE OF AI

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Stream: Age of AI: Ethics, Inclusivity and Social Impact

In this paper I aim to interrogate the relationship between artificial intelligence and art, specifically asking: can AI generated images be classified as art to begin with, and, how are we to understand this phenomenon from a sociocultural and sociopolitical perspective? In his essay The work of art in the age of its technological reproducibility (1936) philosopher and cultural critic Walter Benjamin astutely observed that technological inventions such as photography and film, and the way in which these were received by an increasingly massified audience, threw into perspective undercurrents of changes in the sociopolitical fabric itself. Such careful sounding of the drivers of change in the production and reception of art is, in Benjmain's words "useful for the formulation of revolutionary demands in the politics of art". Such an approach also makes a deeper sociopolitical critique of AI possible beyond consideration of ethical red flags such as nonconsensual gathering of data, ecological concerns and the perpetuation of cultural bias.

Benjamin lauds the reproducibility enabled by technology, as this reproduction of visual culture smashed the elitist notion of art for art's sake. As such, film had the potential to 'shatter tradition' and 'renew humanity' but was soon appropriated into the system of capitalist commodification, serving at once as a means of exploitation and pacification of the working class. This paper seeks to argue that in its current usage in the creative industries and elsewhere, AI similarly is a continuation and deepening of colonial constructs whilst tantalisingly promising unlimited freedom of expression and creativity. Lastly, I will explore the status of craft as revolutionary counter-practice in the face of cannibalistic and dehumanising aspects of AI with reference to Benjamin's essay Some remarks on folk art (1929) and Oksala and Orel's essay On the persistence of craft (2022).

10. PLATONIC "MIMESIS". TIK-TOK AND LIBERTARIANISM IN THE MISINFORMATION ERA

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Plato uses the word "mimesis" which is Greek, to mean "imitation". Both Plato and Aristotle spoke of mimesis as the re-presentation of nature. It implies that things man perceives and eventually "creates" or (re)produces in his existence are shadowy representations of this ideal type, that is God's creation. According to Plato, the painter, the tragedian, and the musician are imitators of an imitation, twice removed from the truth.

Tik-Tok is a social media platform for discovering, creating and sharing short videos and text. The app is used by individuals or groups as an outlet to express themselves through singing, dancing, comedy, and lip-syncing. It allows users – both amateur and professional creators to add effects like filters, background music, and stickers to their videos, and can collaborate on content and create split-screen duet videos even if they're in different locations – Investopedia (2024). Launched in 2016 by Chinese technology company ByteDance, TikTok is a popular social media app that allows users to create, watch, and share videos shot on mobile devices or webcams. With its personalised feeds of quirky short videos set to music and sound effects, the app is notable for its addictive quality and high levels of engagement.

The App, which is now being used worldwide, faces opposition on the basis of legal and social violations like collecting information from minors, indecent content, intrusion into private data and the like. In 2024, Tik-Tok was banned in India and Pakistan. In Kenya, Parliament debated a public petition seeking to bad Tik-Tok in August 2023, a petition which was defeated in the floor of the House. The petitioner cited violence, explicit content, offensive behavior and vulgar language as the basis.

It is within this backdrop that this paper seeks to examine the use of Tik=Tok in the supposed libertarian tradition. The paper further seeks to understand the mimicry, entertainment and misinformation carried on this platform. It further examines the ethical violations that are expressed and experienced on this platform. This paper will be informed by the libertarian theory in order to respond to the questions of the study which are: What are the major categories of Tik Tok used among Kenyans? What is the nature of content shared through Tik-Tok? What are the legal and ethical concerns about the messages shared through Tik-Tok? What is the implication of Tik-Tok content on libertarian and social responsibility era. Data will be collected through content analysis and interviews. The generated data will be presented according to the research questions.

11. ADDRESSING BIAS IN AI SYSTEMS: A FRAMEWORK FOR CULTURAL INTEGRATION

By Prof. Donna Pido, Martin Khamala, Prof. Odoch Pido

Abstract

In this paper critically, we critically examine biases within Artificial Intelligence (AI) systems, particularly those rooted in Occidental and Sinocentric perspectives, and propose a framework to integrate African cultural contexts. We investigate how these biases impact AI technologies in education and workplaces, highlighting the need for inclusive approaches. AI technologies, despite their rapid advancement, often perpetuate biases aligned with Euro-American and Asian epistemological perspectives. We scrutinize these biases within AI systems and advocate strategies to mitigate them. The failure to accurately represent African cultural identities poses significant challenges in educational and workplace settings.

Using a systematic review methodology drawing from social anthropology and computer science, we explore the implications of biases in AI systems. Our study reveals significant issues in facial recognition and natural language processing, where underrepresentation of darker skin tones and African languages leads to less accurate tools.

Efforts to integrate African cultural contexts into AI technologies have been inadequate, failing to reflect languages, customs, and societal structures accurately. This oversight alienates users and undermines cultural integrity, highlighting the necessity for inclusive data collection practices. AI-driven educational technologies often align with Western and Eastern pedagogical models, which do not suit the communal learning prevalent in African societies. This misalignment exacerbates educational disparities,emphasizing the need for participatory design approaches that respect local traditions. In African workplaces, AI implementation often ignores local cultural dynamics, reinforcing existing power imbalances and facing resistance. High costs further hinder widespread adoption, necessitating culturally sensitive and cost-effective strategies for effective AI integration.

Our study advocates for a framework that embraces African cultural diversity in AI development. By addressing biases, integrating cultural perspectives, and reforming technologies in education and workplaces, we believe African technologists can create AI systems that enhance efficiency while preserving cultural identity and promoting agency. This holistic approach is crucial for empowering African societies in the digital age.

Keywords: Ethical AI, Algorithmic bias, Cultural sensitivity, Machine learning, Diversity in technology, Socio-technical systems

12. Artificial Intelligence and The Copyright Dilemma: The Case of Photography

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Abstract

Photographers in the creative industry have relied on human talent to capture moments, tell stories, and evoke emotions. However, the advent of artificial intelligence has significantly disrupted this landscape. Photographic works are classified as Intellectual Property and are protected by Copyright law. The use of non-copyrightable AI-generated images brings disruption into sharp focus. Therefore, the problem with most AIs' role in the creative industry is that they can serve as collaborators and competitors. As a collaborator, AI can enhance human creativity in photography by offering new tools and possibilities. As a competitor, it takes away jobs, hence the livelihood of photographers. It can automate mundane tasks, allowing photographers to focus on the creative aspect of their work. AI has numerous benefits, opportunities, and challenges, particularly for photographers whose roles it seeks to supplant. As AI continues to evolve, stakeholders in the creative industry must navigate this balance. The questions in this paper are: 1) what are classified as photographic AI work? 2) How are Intellectual Property Laws related to picture generation

SUB THEME 2

AI and the Future of Autonomous Systems.

13. EXPLORING THE INTERSECTION OF CREATIVITY AND TECHNOLOGY IN THE JEWELLERY SMME SECTOR OF TSHWANE, SOUTH AFRICA

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Abstract

The introduction of technology in the jewellery manufacturing processes dates back more than half a decade. Research on the use of technology in the jewellery manufacturing process and its role or impact on creativity is predominately from the North. There is a need for more research on the application of technology and its role and impact on creativity from the South and African context. The importance of such research is underscored by South Africa's and Africa's dominant role in the production of precious metals used as manufacturing inputs in the jewellery production processes. This paper is in three folds, (i) It presents the experiences of Small, medium and micro enterprises (SMMEs) jewelers on their use of additive manufacturing processes against traditional processes, (ii) compares jewellery produced through traditional manufacturing processes against additive manufacturing processes, and (iii) the practical jewellery will be displayed for the duration of the conference for participants to share their experience of the two manufacturing processes (traditional and technological). This paper has implications for SMMEs in the jewellery industry, the higher education institutions that produce graduates with advanced skills in jewellery production as well as policymakers that may influence the adoption of Artificial Intelligence (AI) in the additive manufacturing processes. This paper will contribute new knowledge from the global South perspective and inspire more debates between practitioners, knowledge production institutions and policymakers.

Keywords: Additive manufacturing, Jewellery, AI, Precious metal, trade policy, CAM/CAM

14. PRACTICE IMPLICATIONS OF ARTIFICIAL INTELLIGENCE (AI) FOR KENYA'S UNIVERSITIES: A BOON OR A BANE?

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Abstract

The growing presence and usage of Artificial Intelligence (AI) technologies in education, among other sectors, is arguably disruptive, in the context of the traditional models of educational delivery. A case in point is the universities sector in Kenya. This state of affairs poses a critical question, around which this paper is conceptualized; What are the current and future implications of AI technologies on the universities` modus operandi, and to what extent can the universities be considered AI-ready, heading into the future? This paper first contextualizes, the advent of AI within the universities` mandates, and then attempts to answer these questions. Hinging on a narrative analysis of relevant empirical literature, as well as ensuing anecdotal evidence, this paper examines, summarizes, and brings to the fore, the practices of AI in the wider context of educational delivery by universities in other countries and continents. Ultimately, the paper underscores the implications of the AI practices for Kenya`s universities. It is envisaged that this paper would attain two main outcomes. First, enhance the level of awareness, appreciation, and practice-specific understanding of the potential value of AI. Secondly, avail evidence-based information, which would promote the prospects of the universities towards an AI-readiness strategic posture, into the future, through an informed, and better prepared leadership.

Key Words: *Artificial Intelligence Technologies, Disruptive, Traditional Models of Educational Delivery, Empirical Literature, AI-readiness, AI practices. Kenya`s Universities.*

SUB THEME 3

AI Convergence: Bridging Disciplines for a Sustainable Future

15. CAN AI SUPPLY INTELLECTUAL WISDOM?

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Abstract

Like other fields in skill and knowledge acquisition, an education in the arts and in aesthetics, seeks to impart human wisdom. But artificial intelligence (AI) promises to short circuit the laborious, complex and nuanced route that is taken. Indeed, there is a subliminal excitement about the open ended possibilities of AI; replacing human experiences in education is one of these. And, so far AI is demonstrating significant support and enhancement in the learning process; it is providing tools, insights, and opportunities for growth.

However, can AI *really* replace human sensations and actual experiences that lead to making meaning? Though highly advanced, AI's inability to realize and register sensory inputs, emotions, and consciousness as humans do —as they process these into meaning— hints at the chasm to be bridged if AI is to short circuit the route to wisdom. Human wisdom is shaped by emotional intelligence, subjective intuition, personal experiences, and cultural contexts among others. AI will have to replicate, while respecting individual uniqueness, this preserve of human persons and their communities. Not to mention making nuanced moral and ethical judgments, drawn from intrinsic creativity. Learning from failure is yet another building block in education; AI must factor in this seemingly contingent aspect. The philosophical and existential understanding tied to human consciousness appears to be well beyond AI's capabilities. Thus, the mandate of educating in the arts and in aesthetics, with its complex actual and personalized exploration of human experience, remains unique and irreplaceable by AI —at least for the moment.

16. A BIOFERTILIZER FORTIFIED HYDROPONIC SYSTEM AS AN ALTERNATIVE TO CONVENTIONAL FARMING METHODS

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Abstract

Hydroponics is a method of growing plants using a water-based nutrient solution instead of soil. This innovative technique requires less water, space, and fertilizer than traditional farming. In contrast, bio fertilizers are biodegradable substances containing living microorganisms, such as rhizobium, that enhance soil fertility and promote plant growth. Plants need macronutrients, micronutrients, and water to thrive.

Hydroponic systems leverage these essential components to produce healthy plants without the additional resources typically required in conventional agriculture. With 20% of agricultural land being converted into real estate, there is an urgent need for farming methods that utilize less space. Furthermore, climate change has led to unpredictable weather patterns, complicating traditional farming schedules. Hydroponic systems address these challenges by being flexible and easily adaptable to various environments, allowing for year-round cultivation.

In this study, a cost-effective deep water hydroponic system was developed using transparent one liter plastic containers filled with a nutrient solution made from water and essential micro and macronutrients. Biofertilizers were created from fermented fruit peels mixed with molasses. To test the system's functionality, bean explants were introduced, and their growth was monitored over two months. Parameters such as leaf count, germination period, and plant height were measured weekly. Compared to explants in soil, those in the biofertilizer-fortified hydroponic system exhibited exponential growth. In the first two weeks, they produced 8-10 leaves and reached heights of 18-22 centimeters. The leaves were larger than those grown in soil. This biofertilizer-enhanced hydroponic system offers a sustainable alternative to conventional farming methods that rely on synthetic fertilizers, which can contaminate soil and water.

Keywords: Hydroponics, Biofertilizer

17. FORTIFICATION OF PRO UNGA BY USE OF RUSPOLIA DEFERENS

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Abstract

Malnutrition remains a critical issue in Kenya, affecting many children and vulnerable populations. The predominant cause of malnutrition is food insecurity, which arises from economic challenges and the impacts of climate change. This issue has severe long-term health implications, including impaired physical and cognitive development, heightened susceptibility to infections, and increased mortality rates among children. According to UNICEF Kenya, as of early 2024, approximately 26% of children under the age of five in Kenya experience stunted growth, with 11% being underweight and 4% suffering from wasting.

This malnutrition stems from an inadequate intake of essential nutrients, which is associated with food insecurity, especially among children and economically vulnerable populations. Addressing this issue requires a comprehensive approach that includes improving food security, providing easy access to a nutritious diet, and promoting better nutritional practices. Biofortification of staple foods with unconventional high-nutrient food sources such as protein-rich insects can help combat malnutrition. Ruspolia deferens, commonly known as "Nsenene" represents an economical source of proteins and lipids that are deemed safe for human consumption. Nsenene integration into maize flour can effectively alleviate malnutrition in numerous households through improved protein content in ugali, a staple diet of maize meal. To this end, this project explored the fortification of maize flour with Nsenene — a protein-rich edible insect. We used standard protein analyses to determine the protein content of Ruspolia deferens fortified maize flour.

The fortified maize flour demonstrated a superior nutritional profile when compared to traditional maize flour, which has the potential to enhance health outcomes in vulnerable populations. Future initiatives should aim to raise awareness of the benefits of biofortified foods by integrating locally available, unconventional high-nutrient food sources into staple diets as a means of improving community nutrition.

Key Words – Malnutrition, Food insecurity, Fortification, Maize flour Ruspolia deferens

18. ARTIFICIAL INTELLIGENCE AND THE ARTIST, IMPROVED ARTISTIC CREATION IN THE DIGITAL AGE IN CAMEROON

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Abstract

Artificial intelligence (AI) seems to occupy an important place in almost every area of society in the world. Particularly in the visual arts at the dawn of the 21st century, we are witnessing the intervention of AI in the process of creating works of art. A large number of AI-created works presented on screens and distributed via the internet bear witness to this. From the moment that AI, literally, is understood as artificial intelligence, this raises a problem relating to its involvement in art when it is associated with artistic creation. The cooperation between AI and the artist is today a creative modality that enables innovation and the production of works that bear witness to both improved artistic creation and unprecedented aesthetics. In this article, we propose to explore the particular case of cooperation between AI and the artist in contemporary art in Cameroon. Such an initiative, while mobilising data tested by other researchers, should enrich thinking in the field of art and art history.

19. LEGAL FRAMEWORKS FOR AI-ENHANCED RENEWABLE ENERGY SOLUTIONS: THE NGONG HILLS WIND TURBINES

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Abstract

This study investigates the legal frameworks governing the integration of Artificial Intelligence (AI) in renewable energy solutions, using the Ngong Hills wind turbines project in Kenya as a case study. The research addresses the pressing need to develop comprehensive legal structures to facilitate the deployment and operation of AI-enhanced renewable energy systems, while ensuring compliance with regulatory standards and addressing potential challenges. Through a critical analysis of existing literature and regulatory documents, the study identifies gaps in current legal frameworks that hinder the optimal utilization of AI technologies in renewable energy projects, particularly in the context of the Ngong Hills wind turbines. The objectives of the study includes finding out existing legal frameworks, examining the impact of AI onrenewable energy efficiency and compliance, and proposing recommendations for future legal developments. The significance of the study lies in its potential to inform policymakers, energy companies, and other stakeholders about the implications of AI integration in renewable energy and guide the development of robust legal frameworks.

Theoretical frameworks such as the Technology Acceptance Model and Institutional Theory provide lenses through which to analyze stakeholder attitudes and institutional pressures shaping renewable energy governance. Methodologically, the study employs a qualitative analysis study methodology to examine regulatory documents; journals, reports, databases and online materials on the areas legal landscape surrounding the Ngong Hills wind turbines. Findings are that current legal frameworks inadequately address the complexities of AI integration in renewable energy, particularly evident in the Ngong Hills wind turbines project. Challenges include gaps in regulatory provisions for data privacy, cybersecurity, and liability. Conclusions underscore the urgent need for comprehensive legal structures to facilitate AI-enhanced renewable energy systems while ensuring compliance and accountability. Recommendations advocate for the development of tailored policies that address AI-specific concerns, promote stakeholder engagement, and foster innovation. Effective governance mechanisms, informed by multidisciplinary insights, are essential to optimize the benefits of AI in advancing renewable energy solutions.

Keywords: Artificial Intelligence (AI), Governance, Legal frameworks, Renewable energy, Wind turbines and Sustainability

20. LEVERAGING ARTIFICIAL INTELLIGENCE FOR ENVIRONMENTAL SUSTAINABILITY: APPLICATIONS IN BIODIVERSITY, CLIMATE CHANGE, WASTE MANAGEMENT, AND POLLUTION CONTROL.

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Abstract

The integration of Artificial Intelligence (AI) into environmental sustainability efforts is revolutionizing our approach to some of the most critical ecological challenges. This paper explores AI's applications in biodiversity conservation, climate change mitigation, waste management, and pollution control.

Biodiversity Conservation

Utilizing deep learning and computer vision, AI enhances species monitoring by processing vast datasetsfrom camera traps, satellite imagery, and acoustic sensors. These technologies enable precise tracking ofwildlife populations, habitat analysis, and poaching detection (Xu et al., 2020). Predictive analytics model ecosystem responses to stressors like climate change, facilitating proactive conservation strategies
(Norouzzadeh et al., 2018).

Climate Change Mitigation

AI's role in climate science includes advanced neural networks for climate modeling and prediction.
These models analyze historical climate data, improving weather forecasts and predicting extreme weather events (Rolnick et al., 2019). AI-driven optimization algorithms enhance energy efficiency in smart grids, reducing carbon emissions (Schneider et al., 2020). Additionally, AI supports carbonsequestration projects by optimizing flora growth conditions through real-time environmental monitoring (Bergen et al., 2019).

Waste Management

AI revolutionizes waste management with automated sorting systems using robotics and computer vision. These systems increase recycling rates by classifying recyclables with high accuracy (Giacomelli et al., 2021). Predictive maintenance models enhance waste management facilities by forecasting equipment failures. AI also optimizes waste-to-energy processes, promoting circular economy practices(Zorpas & Voukkali, 2019).

Pollution Control

AI integration in pollution monitoring systems significantly improves environmental management. AI-powered sensors and IoT devices provide real-time air and water quality data (Singh et al., 2020).

Machine learning algorithms identify pollution patterns, enabling swift mitigation measures. AI models predict pollution outbreaks and optimize remediation technology deployment (Ni et al., 2020).

Furthermore, AI aids in developing smart environmental policies by analyzing regulatory impacts on pollution levels (Chen et al., 2019).

AI's capabilities in data analysis, predictive modeling, and real-time monitoring offer innovative solutions to mitigate environmental degradation, enhance resource efficiency, and promote sustainable development. This interdisciplinary approach positions AI as a cornerstone in the quest for a resilient and sustainable future.

21. INTELLIGENT TRANSPORT SYSTEMS & THE TRAFFIC BRAIN: COMPOSITE REAL-TIME DATA SOURCING, AGGREGATION AND INTEGRATION INTO ACTUATED TRAFFIC DEMAND MODELS IN TRANSFORMING URBAN MOBILITY IN NAIROBI.

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Abstract

Intelligent Transport Systems (ITS) forms an integral part of smart city components forming the backbone of advancement in traffic management. The presentation highlights ITS and its role in a traffic brain where real-time data is sourced from government agencies (such as Kenya Urban Roads Authority, National Transport & Safety Authority, Traffic Police, NAMATA, County Government, Kenya Railways, Kenya Airports Authority) and private sector, aggregated, and integrated into traffic demand models and applied in control of traffic lights, bus management systems, road safety systems. The presentation brings to light the concept of the "traffic brain" –

an automated human brain like traffic system designed to assimilate a conglomerate of data streams to heterogeneous and homogenous information into actuated demand traffic models that ensures safe & integrated seamless traffic flow.

The traffic brain uses data and predictive analysis based on hourly and seasonal traffic characteristics and variations to come up with algorithms for various traffic scenarios and application in congestion management, route planning, and overall traffic efficiency at macro, micro and meso traffic levels.

The presentation widens the transportation engineering knowledge in areas of road safety, public transport systems, urban transport mobility planning, development and highlights the needs for all stakeholders to integrate systems and development plans leading to more responsive, efficient, and sustainable urban mobility transport systems.

22. THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENHANCING FINANCIAL ANALYSIS AND DECISION MAKING FOR SUSTAINABLE DEVELOPMENT.

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Abstract

The advent of advanced Artificial Intelligence (AI) technologies is currently compelling businesses into the use of automated and data-driven analytics for more competitive advantage. Understanding how AI can augment traditional financial analysis processes and improve decision-making holds the key to unlocking new efficiencies, mitigating risks, and capitalizing on emerging opportunities for sustainable development.

This study therefore examines the role of artificial intelligence in enhancing financial analysis and decision making among firms in Nigeria. Specifically, it evaluates the extent to which AI-Data Visualization, AI Virtual Assistance, and AI Chatbot enhance the accuracy, effectiveness and timeliness of financial analysis. The study utilises cross-sectional survey design in its investigation. The area of study focuses on firms operating within Nigeria, spanning its diverse economic setting and varied industrial sectors.

The population of this study is infinite, comprising business owners, staff members in finance and accounting departments, and personnel in information and communication technology (ICT) units across various firms in Nigeria.

The researchers adopted Cochran's formula for sampling from an infinite population which yielded in 246 respondents as sample size. Self-administered questionnaires were distributed using both online and physical platforms. The reliability of the instrument in this study is evaluated using Cronbach's alpha coefficient. All scale demonstrates reliability coefficients that surpass the minimum acceptable benchmark of 0.7. Descriptive statistics, including measures of percentages, and frequency distributions, were computed to summarize the data. Inferential statistics, specifically correlation analysis, was employed to test the research hypotheses in order to establish the extent to which artificial intelligence enhances financial analysis and decision making among firms in Nigeria.

Results from the study showed that AI-Data Visualization, AI Virtual Assistance, and AI Chatbot significantly enhance the accuracy, effectiveness and timeliness of financial analysis.

This study concludes that AI plays significant role in financial analysis and decision-making for sustainable development.

23. ARTIFICIAL (UN)INTELLIGENCE: EXPLORING THE CAPABILITIES AI IN AFRICAN IMAGE GENERATION

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Abstract

Like many recent technological advancements, particularly those stemming from information and communication technologies, the rise of Artificial Intelligence (AI) has gained significant traction across various institutions in Africa. However, much like other emerging technologies, the widespread popularity of AI, especially among the youth, is often perceived as a generational trend, characterized by discretionary engagement with minimal focus on its meaningful and purposeful utilization. In this context, the rapid adoption of AI by Africa's dynamic youth often precludes careful scrutiny and thoughtful cultural integration of the technology. In the realm of art and design, for instance, AI tools are frequently employed without adequate consideration of the accuracy of outcomes or the broader implications for visual culture. This raises critical concerns related to cultural representation and bias, technological limitations, and ethical

implications, particularly regarding AI's role in African image generation and its reliance on global datasets that may not accurately reflect the continent's diversity. This paper aims to provide a critical examination of the current state and potential of AI in generating culturally relevant images within African contexts. By exploring selected AI tools available for image generation, the study addresses key issues surrounding AI's strengths and weaknesses, with a view toward fostering discussions on how future AI models can more effectively capture the diversity and richness of African cultures. Ultimately, this exploration seeks to demonstrate how AI can be leveraged to create new forms of art that not only support art education but also promote and celebrate African cultural identity.

24. ARTIFICIAL INTELLIGENCE AND THE ARTIST, IMPROVED ARTISTIC CREATION IN THE DIGITAL AGE IN CAMEROON

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Abstract

Artificial intelligence (AI) seems to occupy an important place in almost every area of society in the world. Particularly in the visual arts at the dawn of the 21st century, we are witnessing the intervention of AI in the process of creating works of art. A large number of AI-created works presented on screens and distributed via the internet bear witness to this. From the moment that AI, literally, is understood as artificial intelligence, this raises a problem relating to its involvement in art when it is associated with artistic creation. The cooperation between AI and the artist is today a creative modality that enables innovation and the production of works that bear witness to both improved artistic creation and unprecedented aesthetics. In this article, we propose to explore the particular case of cooperation between AI and the artist in contemporary art in Cameroon. Such an initiative, while mobilising data tested by other researchers, should enrich thinking in the field of art and art history.

SUB THEME 4

AI in Healthcare; Transformation, Innovation and Future Trends

25. APPLICATION OF AI IN HEALTHCARE IN AFRICA: CHALLENGES AND OPPORTUNITIES

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Abstract

AI has tremendous potential to transform and improve healthcare in Africa, a continent facing significant healthcare challenges. However, there are several key obstacles that must be addressed to realize the full benefits of AI in African healthcare.

The main challenges in use of AI in healthcare are closely associated with AI devices (techniques). These devices can be categorised into three broad groups: the classical machine learning techniques, Deep Learning techniques and the Natural Language Processing (NLP) methods. These rely availability and quality of data generated from clinical activities, screening, diagnosis, treatment assignment and are used to 'train' AI systems to learn from similar groups of subjects, associations between subject features and outcomes of interest.i

Africa lacks large, high-quality clinical datasets needed to train effective AI models. Digitization of medical records and availability of electronic health data are a barrier. Existing algorithms are biased to Western populations and may not accurately reflect African physiology and health profiles.ii iii

Africa lacks data science and AI skills, healthcare infrastructure and connectivity, regulatory environments, and user skepticism towards new technologies. Coordinated efforts by public, private institutions and academia for AI development, enhance digital health infrastructure, and establish promotive policies and governance frameworks.iv

Despite the challenges, there are significant opportunities for AI to benefit African healthcare. AI-powered solutions can help address Africa's high disease burden by improving population health monitoring, individual patient care, health system efficiency, and pharmaceutical development. Smartphone-based AI apps can also expand access to healthcare in remote areas.iii

A problem-driven and locally-led approach is proposed. AI solutions need to be designed and implemented based on local healthcare needs and contexts. There is need to empower African innovators and researchers to drive AI development, challenges of the continent can be effectively addressed through contextually relevant and sustainable solutions. i

26. HARNESSING AI FOR HEALTHCARE INNOVATION; CURRENT APPLICATIONS AND FUTURE TRENDS

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Abstract

Most healthcare systems in the world today often struggle with inefficiencies, data management issues, and resource constraints. This is compounded by the ever-rising cost of healthcare, an aging population, and the increasing prevalence of chronic diseases and complications. Artificial Intelligence (AI) can be leveraged to provide solutions to these challenges through advanced data analytics, predictive modeling, and automation.AI continues to promise to provide solutions to these challenges as healthcare providers can improve diagnostic accuracy, personalize treatment plans, optimize operational efficiencies, and ultimately enhance patient outcomes. This paper therefore aims at exploring the various AI innovations and their applications in various aspects of healthcare and how they are transforming medical practices. The research will further identify future trends and their implications for the industry.

This research will employ a mixed-methods approach, incorporating both quantitative and qualitative data collection and analysis methods. The researcher will conduct a comprehensive analysis of the existing literature on AI, examine specific AI innovations and collect insights from healthcare professionals, AI experts, and patients to understand the practical implications of AI.

The study will be guided by change management theories (Kotter's 8-step change model and Lewin's change management model) as well as Innovation Diffusion theory by Everett Rogers. These theories provide strategies for overcoming resistance to change, engaging stakeholders, and ensuring a smooth transition to AI-enabled practices as well as understanding the adoption and acceptance of AI technologies in healthcare settings across the cultures.

Key Words: *Artificial Intelligence, Healthcare Innovation, Future Trends, Patient Care, Operational Efficiency, Personalized Medicine, Data Analytics, Medical Research.*

SUB THEME 5

AI in Education Ecosystems

27. ENHANCING KENYA'S RESILIENCE BY INTEGRATING ARTIFICIAL INTELLIGENCE IN DESIGN EDUCATION

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The higher education system in Kenya, particularly in design education, plays a crucial role in shaping the nation's future and resilience. The influence of design transcends mere economic benefits; it also nurtures leadership skills and facilitates significant system changes by fostering creativity, innovation, and strategic thinking, as well as emphasizing human-centric solutions. The education system in Kenya has evolved through three main phases.

From 1963 to 1985, the Ominde Report laid the foundation for post-secondary education, aligning it with national development goals. The Mackay Report (1963-1985) introduced the 8-4-4 system in 1985, focusing on practical and skill-oriented education to meet socio-economic needs. This system created a conducive environment for art and design education,emphasizing practical skills, teacher training, and resource allocation. Since 2017, the Competency-Based Education and Training (CBET) system has furthered this approach by prioritizing practical skills and competencies, promoting creativity, critical thinking, problem-solving, and lifelong learning (Aduda, 2023).

This paper explores the transformative potential of integrating AI into design education. With its advanced tools and methods, AI can be a catalyst for creative problem-solving to address

Kenya's significant challenges. The potential of AI to drive social change, improve government, non-profit, and commercial operations, and foster innovation is immense. By integrating AI into design education, Kenya's education system can become more adaptive,efficient, and effective in addressing its unique challenges, and ultimately leading to improved educational outcomes and societal progress (Aggarwal, 2023). The challenges facing Kenya's development necessitate creative problem-solving and an evolving design education with AI that can help drive essential social and economic changes. By equipping students with the skills to envision and define preferred futures, along with AI-enhanced professional practices, design education underscores the critical tools needed for societal transformation. The paper reveals the potential of design education to leverage AI and evolve and drive change by providing students with skills to be learners, thinkers, and innovators.

Design education is pivotal in enhancing Kenya's resilience and proactive role in shaping

28. A BRAVE LEAP? ETHICAL ADOPTION OF AI AMONGST DIPLOMA IN ARCHITECTURE STUDENTS IN KENYA.

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Abstract

AI is a new disruptive technology that transcends all barriers in most human activities. Due to its flexibility, AI seamlessly adopts itself into these activities which include architecture. Architectural Education and Training (AE&T), being a cardinal stage with regards to architectural practice has been also disrupted with the different stakeholders grappling with how to handle AI at different levels of training. This study investigated AI adoption levels in AE&T of diploma in architecture students in Kenya.

The study specifically looked at critical areas of architectural training - Analysis, Conceptualization, Documentation and Modelling and how students ethically integrated AI in handling these tasks. Random sampling of students studying diploma in architecture. programmes in Kenya were used to identify the respondents. Using inferential analysis tools like one sample T test, Pearson corelation, one-way ANOVA test and bivariate regression models, the study showed that AI adoption levels was very low.

The study further showed that though AI tools were used by students in generating answers to normal queries in theory subjects, it was lowly adopted in practical subjects like Architectural design and BIM. The students seem not to have seen the potential that AI holds in ethically complementing the studio and BIM workflow processes. This study recommends deliberate steps to catalyse integration of ethical AI into AE&T by first training the studio and BIM lecturers to empower them on the unlimited possibilities of AI who would then diffuse it to their students who in turn would diffuse it into the practise field within three to eight years.

It would be critical for AI adoption to achieve its critical mass in Kenya within a short time, to also help in improving the process of localising generative AI responses through machine learning thereby improving the causal-effect loop of AI responses when used in Kenya.

Keywords.

Ethical AI, AE&T, Architectural Analysis, Architectural Conceptualisation, Architectural Documentation,

29. THE AGE OF AI AND SEPARATION: REFLECTIONS OF A STUDENTS EXHIBITION

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Abstract

In this paper, the author reflects on the projects she guided students from the Technical University of Kenya to develop for submission to the (A) eye – AI Student Exhibition 2024 that will be held during the 4th International Technical University of Kenya – Exploring Visual Cultures Conference. Observations of student's attitudes towards the effects of AI on future Design trends, and the implications to their careers, lives and communities are reviewed and explored; seeking insights on how Designers can utilize AI in harmony with human creativity, and as a tool to create a world that is inclusive.

The author discusses three projects she taught or supervised in this paper. Dance Your Virtual Reality was a dance performance of a utopic world prepared as group work in the Art of Creative Thinking class, which students turn into a short film utilizing AI tools. Product Design with AI was a challenge to students in the Introduction to Product Design class to incorporate AI into everyday products.

The Human AI Design Challenge was a competition by Barcelona Design Week in 2023 that encouraged students to graphic design 70x100cm posters with the assistance of AI generated content, that depict how to balance the relationship between human creativity and artificial intelligence in the best way.

Aspects of the projects including concept development, the design and production processes, facilitation and outcomes are also discussed. Data, insights and conclusions will be based on participant observation and extensive reading.

Key words: AI, Human Creativity, Future of Design, Design Education

30. AI-DRIVEN PERSONALIZED LEARNING PATHWAYS: ENHANCING STUDENT ENGAGEMENT AND ACHIEVEMENT

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Abstract

The integration of artificial intelligence (AI) in education is revolutionizing traditional learning paradigms by offering personalized learning pathways that cater to individual student needs. This study explores the potential of AI to customize educational experiences and improve student *outcomes. The primary objectives of this research are: (1) to examine how AI-driven personalized learning pathways influence student engagement and (2) to assess the impact of these pathways on academic achievement. To address these objectives, a qualitative research methodology will be employed. The study will involve in-depth case studies of classrooms that integrate AI-driven personalized learning platforms. Data will be collected through semi-structured interviews with students and teachers, focus group discussions, and classroom observations over an academic year. The interviews and focus groups will aim to capture participants' experiences, perceptions, and attitudes towards AI-enhanced learning, while observations will provide contextual insights into the implementation and dynamics of AI-driven personalized learning in the classroom. The anticipated findings of the study include a significant enhancement in student engagement, as AI-driven personalized learning pathways are expected to offer more relevant and motivating educational experiences. Additionally, the research is

likely to reveal positive impacts on academic achievement, with students benefiting from customized support that aligns with their individual learning styles and needs. The study may also uncover critical insights into the practical challenges and best practices associated with integrating AI in educational settings, informing future implementations. By examining the qualitative dimensions of AI-driven personalized learning, this study aims to contribute to a deeper understanding of how AI can transform educational ecosystems within the African context.

The findings will provide valuable guidance for educators, administrators, and

policymakers in leveraging AI to create more engaging and effective learning environments.

Keywords: Artificial Intelligence, Personalized Learning, Student Engagement, Academic Achievement, Qualitative Research

31. AN ARGUMENT FOR INTRODUCTION OF AI EDUCATION AT AN EARLY AGE FOR DIGITAL EQUITY

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Abstract

This study seeks to advocate for the introduction of AI education in early childhood in Kenya and Africa at large. Studies indicate that AI will be a significant subject in the future and this has forced most countries to start preparing for it. For instance, China has started teaching AI in both primary and secondary school levels. According to UNESCO

report (2022), eleven governments in the world have already approved AI curricula with a few others in the development process. Kenya on its part, has endorsed computer studies at both primary and secondary school levels even though computer studies do not dwell so much on AI fundamental topics. Governments and agencies are slowly starting to perceive that having a good understanding and the required skills with regard to AI tools can be essential for children to fit in the society quickly and excel.

This study will employ exploratory literature review to generate the merits of introducing AI education at an early age. The findings of the study indicate that introduction of AI education at the lower levels of education is advantageous for it will ensure digital equity; improve children's creativity, computational thinking, collaborative inquiry skills, adaptive behaviour, language skills, and other 21st century skills necessary for the 4th industrial revolution. It will also facilitate knowing and understanding of the basic functions and use of AI and AI applications.

Lastly, AI education will meet the needs of future generations by preparing children for an unpredictable job market and a future with AI, inspire a novel generation of AI scholars and researchers, and teach the succeeding generation of experts how to develop ethical and safe AI systems in the medical, financial and automobile spheres.

32. AUDRILLARD AND AI: A PROJECT-BASED CASE STUDY OF SIMULACRA AS A PREDICTOR AND FACILITATOR OF AI GENERATION IN SOUTH AFRICAN DESIGN CURRICULA.

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Abstract

It is possible to argue that in a world which is evermore governed by generative AI (gAI), we are observing a trend in design education and practice that mimics 'hyperreal simulacra' defined by Jean Baudrillard in 1981. It is a world, Baudrillard (1988) predicted, governed by simulacra – a liquidation of conceptual references from the structural sign. He describes a code-like, visually oversaturated, postmodern world flooded with hyper-mediated simulations of meaning. It is an entangled, nebulous space of disjointed meaning whereby computer code deteriorates previously meaningful signs: meaning that is ripped from reference to anything. He describes, in short, signs as hyperreal shells that reveal the lack of anything real.

As one of the more controversial poststructural thinkers of the 1980s - 2000s, Jean Baudrillard's exegesis on simulacra is often criticized as hyperbolic and totalising (Poster 1988; Rojek & Turner 1993; Clarke et al. 2009). In my research into gAI, I have found that in fact Baudrillard has predicted, fairly accurately, a form of contemporary 'simulacra' that is determining a trajectory of fleeting meaning – a world that is becoming increasingly mediated and pervaded by gAI signs (imagery, video, writing, deep-fakes, and so on).

In this paper, I comment on Baudrillard's simulacra as a predictor and facilitator of gAI. In particular, I make use of a practice-led Information Design project as a case study to illustrate the impact of AI on graphic design in a South African context. I comment on learnings with regard to the challenges, shortfalls and opportunities that belie the application of gAI in design curricula and the broader design landscape. The intention is to demystify, to some degree, some of the more abstract concerns that gAI has brought about in communication design education and industry by unpacking what I consider a Baudrillardian lens on AI.

33. AFRIKAN VISUAL CULTURE AND THE DESIGN CURRICULUM IN THE AGE OF AI

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Abstract:

This paper explores the integration of Afrikan Visual Culture into design curricula in the context of the current AI-driven era. Using empirical data from interviews conducted in a larger study and a thematic content analysis of AI-generated cultural artifacts, framed within the theoretical concept of coloniality of being, the paper emphasizes the importance of design education in recognizing and promoting Afrikan culture on a global stage, especially against dominant Western cultural influences.

The complexity of Afrikan cultural semiotics and the potential misuse of cultural symbols are concerns that educators need to address. Therefore, the paper highlights the necessity for design educators to deeply understand Afrikan culture and incorporate various regional aspects into the design curriculum. Overall, it is argued how design educators could support students to integrate their hybrid cultural identities into their design work and account for the influence of Artificial Intelligence in this process.

Keywords: Afrikan Visual Culture, Artificial Intelligence, Curriculum

34. DEVELOPING CRITICAL THINKERS IN THE AESTHETICFIELD: BALANCING STUDENTS LOVE FOR AI AND MAINTAINING ACADEMIC INTEGRITY

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Abstract

The 21st Century has seen an emphasis on critical thinking and development of problem-solving skills which are much needed in the development of global citizenship.

Academia has responded positively to this challenge by reviewing it curriculum; pedagogy as well as retooling the academic infrastructure to be aligned with contemporary trends. Faculty and learners in the aesthetic field have equally experienced the potential presented by the use of artificial intelligence AI in their research, teaching and artistic practice. However, concerns are being raised about the influence of AI on the development of critical thinking and problem-solving skills among aesthetic learners.

This paper explores the use of AI among aesthetic learners, the influences of AI in the area of development of art concepts, art commentary and exploration of ideas for artistic practice.

Keywords: Critical thinking; Problem-solving skills; Artificial intelligence art; Creativity.

35. DIVERGENT PERSPECTIVES ON CHATGPT AND ITS IMPACT ON SOCIAL RESEARCH: DEMYSTIFYING MYTHS AND MISCONCEPTIONS. A CASE STUDY OF UNDERGRADUATE STUDENTS IN THE SCHOOL OF ARCHITECTURE IN JKUAT

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Abstract

The impact of artificial intelligence (AI), specifically ChatGPT, on undergraduate learning processes and academic integrity has become a contentious issue. Lecturers have expressed concerns that the use of ChatGPT may contribute to a decline in students' critical thinking skills and the authenticity of their research projects. This concern is heightened by the observation that modern undergraduate students, accustomed to consuming short, viral videos for entertainment, find engaging with long academic papers challenging. As a result, there is an increasing tendency among students to rely on ChatGPT for academic tasks. This study aims to investigate the extent to which ChatGPT affects the learning behaviour, critical thinking abilities, and academic performance of undergraduate students, as well as the perceptions of educators regarding these impacts. The study will also explore the divergent perspectives on ChatGPT and its impact on social research, aiming to demystify prevalent myths and misconceptions. The objectives include examining the potential advantages of ChatGPT in enhancing data collection and qualitative analysis, while addressing concerns about its reliability, ethical implications, and biases. By providing a balanced assessment, this research seeks to clarify the role of ChatGPT in social research, advocating for a nuanced understanding that recognizes both its innovative contributions and the associated risks. Through fostering informed and critical engagement, the paper aims to guide researchers in effectively incorporating ChatGPT into their methodologies.

Keywords

ChatGPT, Social Research, Data Collection, Qualitative Analysis, Ethical Implications, Bias, Misconceptions, Technological Integration, Critical Engagement, Research Methodologies

36. EXPLORING CULTURAL ASPECTS OF VISUAL METAPHORS IN DOCTORAL STUDENT TRAINING.

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Abstract

The global emergence of the knowledge economy has led to doctoral degrees becoming increasingly popular in many countries. However, the associated high attrition rates have increasingly become a cause for concern.

This has led to a greater awareness of the need to train doctoral students, especially those studying non-literary subjects who lack experience in creating a large textual document which includes prose. In addition to academic writing, doctoral training supports other aspects of the doctoral process such as research methods and research management.

One valuable approach to doctoral student training is to employ visual metaphors (Archer,2006). Metaphors are integral to thought and communication (Lakoff & Johnson, 1980). The use of visual metaphors can help to simply convey complex ideas whilst overcoming verbal learning blockages. This can support doctoral students' development in their academic writing (Power, Carmichael & Goldsmith, 2007), research and supervisory relationships more strategically. However, if trainers come from a different cultural background to the doctoral students who they are training they may inadvertently use visual metaphors which carry a cultural bias or whose meaning may be difficult for their audience to follow.

This paper will explore the use of visual metaphors in doctoral student training with particular emphasis on the author's experiences in training doctoral students in the UK and East Africa over the last seven years and his recent and upcoming publications (Samuels, 2023;Samuels; to appear). The metaphors employed cover aspects of academic writing, critical thinking, supervisor relationships (Derounian, 2011; Gurr, 2001), time management and writing for publication. They will be explored in terms of their cultural relevance and meaning within the doctoral research process to the different audiences where they have been used.

Conclusions and recommendations will be drawn about the appropriateness of using visual metaphors in different cultural contexts.

37. HOW STUDENTS ENGAGE WITH AI – OBSERVATIONS FORM EVC'S VIRTUAL EXHIBITION

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Abstract

EVC has invited students from member universities to participate in a virtual exhibition on the topic „(A) Eye - AI ... and the Future of Visual Culture". A call was sent out, locally and via EVC's newsletter (more than 450 recipients). National curators have been found. (https://explore-vc.org/en/documenta-xv/a-eye-ai.html) The results (not yet available) will be published on EVC's website in the Galleries-section.

The virtual exhibition will explore the fascinating insights of how AI is redefining the boundaries of visual culture. The event will feature diverse works from global artists with projects reflecting on the intersection of artificial intelligence and artistic expression in visual culture. The exhibition aims to provoke critical discussions on creativity and ethical implications of AI in visual culture among others, and will highlight the synergetic potential of human-AI partnership in the creative process.

This exhibition not only celebrates technological advancement but also invites a re-evaluation of the future of visual culture in the digital age.

The curators might emphasize the ethical and philosophical questions posed by these artworks, particularly regarding the definition of creativity and the potential for AI to possess or simulate forms of intelligence that were previously considered uniquely human.

The lecturers will not only give an overview of the submissions, but also analyse them following the research questions:

"Can we recognize specific ways of how the students work? Are there patterns of solutions?"

"Can we observe clusters of solutions? Are there more or less prominent patterns inrespect to numbers?"

"If there are differences, which factors could be considered as influential on the work of the students?"

"How do the national curators interpret the submissions from their respective countries? Are there differences? If yes, how can they be understood?"

By systematically analysing these research questions, it is hoped that a deeper understanding of the role of (A) Eye - AI ... and the Future of Visual Culture and the curatorial strategies employed to interpret and present these works is gained.

Keywords: Artificial intelligence, Digital age, Students engagement, Virtual exhibition, Visual cultures.

38. IMAGINING UBUNTU FUTURES: EXPLORING THE POSSIBILITIES OF USING AI IN ART EDUCATIONA PROGRAMMING & VIRTUAL EXHIBITION DEVELOPMENT

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Abstract

The Ubuntu Project was formed in 2023 as a collective of Black artists, educators, and scholars from Kenya and the United States. Our first endeavor was a virtual exhibition, "Art Bridging Borders" in Spring 2024, which hosted approximately 70 artworks by artists of the African diaspora across three higher education institutions.

While art exhibitions tend to live in the physical realm, we collaboratively organized this exhibition to explore the transformative potential of using digital spaces to connect creatives across the African diaspora.

Invoking the African philosophy of Ubuntu, we engaged in artistic dialogue through collaborating across countries, cultures, technologies, and institutions. We utilized several digital tools to support our curatorial process, which was documented to inform future iterations and arts educational practice.

Although this was our first large-scale engagement with digital tools and spaces, we desire to explore the potential for further technological engagement and conversation about its usefulness in visual art. As we plan for the next phases of The Ubuntu Project, we desire to engage with technologies such as AI to amplify working with Black creatives. We envision AI assistance in four critical areas of curating virtual exhibitions: exhibition organization and planning, digital installation creation, accessibility and inclusive development, and marketing and authentication support.

We are currently exploring AI's transformative capability of fostering more complex and sustainable artistic environments that can empower practitioners. We desire to enhance our collective's work using such technology to advance our curatorial practice, create more interactive engagements, increase accessibility and inclusivity with our audience and artists, and support us in marketing artists and protecting their work.

Our paper will expound upon our vision and plans for incorporating AI-assistive technologies in our creative practice as organizers of virtual exhibitions as we aim to deepen our understanding of virtual spaces and navigation of digital tools.

Keywords: AI, Ubuntu philosophy, visual art, curation, virtual exhibition, higher education

39. INTEGRATING EMERGING TECHNOLOGIES (E.G., AI, BLOCKCHAIN) IN BUSINESS EDUCATION CURRICULA

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Abstract:

This paper delves into the integration of emerging technologies, specifically Artificial Intelligence (AI) and Blockchain, into business education curricula. In an era increasingly defined by digital transformation and technological innovation, it is imperative for educational institutions to equip students with the skills required by modern businesses.

This study *meticulously evaluates the myriad benefits and inherent challenges of incorporating these advanced technologies into business education. AI holds immense potential to revolutionize the learning experience by offering personalized feedback and fostering adaptive learning environments tailored to individual student needs. Concurrently, Blockchain technology promises to overhaul traditional business transactions by ensuring unparalleled transparency, security, and efficiency.

However, the path to integrating these technologies into educational rameworks is fraught with challenges. Key among these are the necessity for specialized training and the significant infrastructure investments required to support these technologies.

The paper outlines strategic approaches for effectively embedding emerging technologies within business education. Central to these strategies is the promotion of robust collaboration between academia and industry. Such partnerships are crucial for ensuring that curricula remain aligned with the latest technological advancements, thereby equipping students with contemporary and relevant skills. By embracing AI and Blockchain, business education can transcend traditional learning paradigms, preparing students to excel in an ever- evolving digital landscape.

This forward-thinking approach not only enriches the educational experience but also fosters a new generation of innovative and entrepreneurial business leaders. Integrating these technologies ensures that students are not only well-prepared to meet the demands of the modern business world but are also poised to drive future innovations.

Ultimately, this integration is more than a curricular enhancement; it is a commitment to fostering a culture of innovation and resilience in business education. By preparing students for the future, educational institutions play a pivotal role in shaping the business leaders of tomorrow, who will navigate and influence the digital economy with confidence and expertise.

Keywords: Artificial Intelligence, Blockchain, Business Education, Emerging Technologies, Curriculum Development

40. LEFT BEHIND: PEDAGOGY AND LEARNING GAPS CONSEQUENTIAL TO AI UNDER-DEPLOYMENT IN KENYAN UNIVERSITIES

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Abstract:

The arrival of artificial intelligence (AI) has disrupted almost all fields of human engagement, including pedagogy and learning in universities. Across the world, from curriculum development, content preparation, content delivery, reception, to examination or assessment and oversight, the AI revolution has taken the world by storm.

Unfortunately, the deployment of AI is not uniform across the world. Predictably, countries in the global west are far ahead of the rest, with Africa at the risk of remaining behind in the production of knowledge and information, as well as in the under- deployment of AI in learning institutions.

While previously, pedagogy sought to deliver content using learner-centred, subject-centred, or problem-centred approaches, the field of learning has now been widened and enlarged through AI. Although more African universities, Kenya included, are increasingly featured in world rankings (Webometrics, 2023), the continent is caught up between techno-utopia and techno-dystopia (Brokensha, Kotzé, & Senekal, 2023).

To what extent has AI been deployed in the exchange of knowledge and information in Kenyan universities? The paper seeks to explain how the differentiated deployment of AI contributes to Kenyan universities' poor position in the global context. Using desk reviews of curricula and media coverage on selected ranked universities, the study attempts to identify gaps in pedagogy in Kenyan universities, linking them to the under-deployment of AI.

Keywords: University ranking; artificial intelligence; pedagogy; AI revolution

41. PENCILS MEET PIXELS: INTEGRATING AI INTO DRAWING PEDAGOGY AT THE UNIVERSITY OF EDUCATION, WINNEBA

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Abstract:

This paper highlights a phenomenological study on a sample size of 15 Level 300 Art Education Students who exploit artificial intelligence (AI) tools for their second-semEsther drawing course entitled: Independent Studies in Drawing at the University of Education, Winneba (UEW).

The study is premised on the objective of the course which inspires students to make critical interventions in drawing history by exploring varied tools, materials, and concepts to question or, explore the norms of drawing. The student's engagement in AI tools is an unprecedented approach to drawing in UEW that transitions from the traditional pencil-and-paper approach to digital tools.

Drawing techniques have long relied on only pencils, pens, charcoal, and paper as essential tools for artistic expression. The concept of drawing has primarily revolved around either imitative or imaginative approaches. Therefore, we aim to examine this uncharted ground of digital drawings, unmasking the transformative potential of AI in the creative process by embracing AI into the drawing pedagogy.

We observe students' drawing sessions, and their lived experiences with AI and analyze their interactions, reactions, and any changes in their approach. Samples of student work (both traditional and AI-assisted) along with in-depth interviews form a pivotal part of the analysis.

Preliminary findings suggest a balanced approach, leveraging AI tools while respecting the foundations of traditional drawing. A seamless blend of established drawing methods and innovative AI-driven techniques is revealed. We envisage that integrating AI tools with mainstream art education may offer the most beneficial learning outcomes.

Ultimately, this research contributes to the ongoing dialogue about the role of AI in art education. As pencils meet pixels, educators and students must navigate this burgeoning landscape to prepare for the future of drawing practice.

42. THE IMPACT OF PHYSICAL EDUCATION ON PSYCHOLOGICAL WELLBEING

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Abstract

Physical education (PE) plays a pivotal role in the holistic development of individuals, extending beyond physical fitness to encompass significant mental health benefits.

This study explores the multifaceted impact of PE on mental health. Regular participation in physical activities within PE programs has been associated with increased release of endorphins and other neurochemicals that promote positive feelings and reduce perceptions of pain.

Moreover, PE provides a structured environment for social interaction, fostering a sense of community and belonging, which is crucial for psychological resilience and emotional well-being.

The research encompasses a diverse range of participants, including students at various educational levels, adults, and individuals from different social backgrounds. To ensure equal representation across age groups, genders, and social statuses, a stratified sampling method was employed. Using the Mental Health Inventory (MHI) and age-appropriate standardized tests to measure physical fitness, the meta-analysis of both quantitative and qualitative data reveals significant positive effects on mental health and physical fitness among participants following a structured PE course.

This holistic approach, considering both objective measures and subjective experiences, demonstrates the beneficial impact of physical education on mental health. Ultimately, this research underscores the importance of incorporating well-designed physical education programs in educational curricula to promote mental health and well-being. It calls for policymakers, educators, and mental health professionals to recognize and leverage the psychological benefits of physical education, advocating for policies that ensure all students have access to regular, high-quality PE.

This holistic approach not only supports physical health but also fosters a mentally healthier, more resilient generation.

Keywords: Mental, Fitness, Endorphins, Psychological, Policymakers.

43. THE USE OF AI IN ARTS EDUCATION: A DIDACTIC TOOL FOR SENSITISING STUDENTS AND FOR THE DETECTION OF TECHNOLOGY ASSISTED WRITING IN ARTS EDUCATION.

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Abstract

The use of AI and virtual assistants such as ChatGPT by university students in the completion of their assignments has emerged as a critical area of concern in higher education. Universities are scrambling to address the emergence of such assisted writing in their plagiarism policies and their curricula, with the certainty that neither the theoretical benefits nor the dire threat of uncritical writing and plagiarism, can be ignored in higher education.

This essay presents a model or rubric that is useful for detecting the presence of technology-assisted writing in student work that can be used by educators in the humanities and specifically in the Visual Arts and Arts Education. The model can furthermore, be used as a didactic tool in the classroom setting to highlighting to students the unoriginality and uniformity of technology assisted writing.

The rubric was compiled by coding the artist's statements of ninety-three art students / artists from various countries and continents for the prevalence of five defining characteristics that point to the probable use of AI.
These are the presence of stock terms such as captivate, celebrate, journey and unleash; the presence of stock phrases such as honing one's skill, pushing the boundaries, and conveying a powerful message; excessive use of effusive adjectives such as exquisite, delightful, striking, unique, elegant, invaluable, etcetera; hyperbolic statements; and, lastly, tortured phrases. The latter are defined for the current purposes as meaningless or irrational statements resulting from unsuccessful attempts to modulate / cover up stock phrases.

Given the sensitive nature of the topic, and because the current model does not seek to prove the use of AI beyond doubt, but rather to provide a tool for educators to help them highlight areas of possible improvement in student writing (whether such writing is the outcome of the use of AI or not), the identities of the artists remain confidential.

Keywords: AI assisted writing, arts education.

44. USER EXPERIENCE AND SATISFACTION IN AI-POWERED INFORMATION RETRIEVAL IN ACADEMIC LIBRARIES IN KENYA

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Abstract

The study, "User Experience and Satisfaction in AI-Powered Information Retrieval in Academic Libraries in Kenya," seeks to explore the impact of AI-driven information retrieval systems on user satisfaction within Kenyan academic libraries. It addresses the existing gap in understanding how users perceive and interact with AI technologies in these library settings. The statement of the problem highlights the growing adoption of AI in academic libraries globally and regionally, yet limited research exists on its impact in the Kenyan context.

Users' satisfaction with AI-powered systems is crucial for their effective implementation, yet factors influencing this satisfaction are not well-understood. The objectives of the study include assessing the current state of AI-powered systems in Kenyan academic libraries, examining their impact on user experience, and identifying key factors affecting user satisfaction. The scope of the study is limited to Kenyan academic libraries using AI for information retrieval, excluding non-academic libraries and other AI applications outside this scope. The significance of the study lies in its potential to improve AI systems in academic libraries, enhance user experience, and contribute to the understanding of AI adoption in African contexts.

The research will benefit librarians and policymakers by identifying areas for improvement and guiding future technology integration efforts. The theoretical review draws on the Technology Acceptance Model (TAM) and Expectancy Disconfirmation Theory (EDT), providing frameworks to understand users' acceptance and satisfaction based on their expectations and the perceived effectiveness of AI systems. Using content analysis, the study reviewed publicly available content such asreports and user reviews to analyze AI system adoption, user satisfaction, and experiences.

The study's findings suggest that user satisfaction is influenced by factors like system accuracy, ease of use, and responsiveness. Conclusions emphasize the necessity of improving AI system integration in Kenyan academic libraries to better meet user needs. Recommendations suggest enhancing user training programs, refining AI systems for better accuracy and ease of use, and addressing infrastructure challenges to optimize user satisfaction and overall system performance

Keywords: AI adoption, AI-powered systems, Academic libraries, Information retrieval, User experience and User satisfaction

45. RADIO FREQUENCY IDENTIFICATION (RFID) IN ACADEMIC LIBRARIES: STATE OF THE ART

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Abstract

Radio Frequency Identification (RFID) is a technology that has transformed library inventory management. It enables libraries to accurately monitor book and other physical media holdings with minimal effort. Libraries are able to employ RFID to automate check-in and checkout operations, prevent theft, boost productivity, and increase efficiency. RFID works by attaching tiny radio frequency tags to books and other library objects. These tags contain a unique identity that is connected with the library catalogue entry of the item. An RFID reader can detect the tag, giving library workers the item's location and status. The benefits of RFID over traditional inventory systems are speed, accuracy, cost-effectiveness, and scalability. RFID readers are capable of scanning multiple goods at once, reducing the amount of time spent on inventorying and check-out operations. Additionally, RFID removes the need for human counting and item matching, resulting in more accurate inventory records. In addition to the time and cost advantages, RFID systems also provide a variety of security benefits. With automated check-in and check-out systems, libraries can dramatically prevent theft of library items. Additionally, RFID technology may be used to monitor patrons' movements in a library, offering a better degree of security. Overall, RFID has shown to be a useful tool for libraries. It has helped libraries to more effectively monitor and manage their collections, saving time and money while offering improved security. For these reasons, RFID has become a widely used instrument in libraries around the world.

Keywords: Radio frequency Identification Device, Libraries, UMYU

46. TITLE: EXPLORING DESIGN EDUCATION, THE DYNAMIC NATURE OF CULTURE, AND THE INFLUENCE OF AI ON THE OUTCOME OF HERITAGE.

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Abstract

Culture is a complex and dynamic concept that encompasses various elements, including time, emotional ties, and heritage. In this paper, I aim to touch on culture and explore why and how we preserve it by examining the influence of time on cultural development and the impact of the emotional significance of cultural heritage.

Furthermore, I also recognize AI as a double-edged sword, its growing significance in our daily lives in Africa, and its potential impact on cultural preservation. I argue that AI may present an opportunity for reflection, healing, and growth through creating and sharing diverse content and new narratives. Therefore, it becomes a tool of consciousness, why we choose what we choose as culture and preserve as heritage. However, I also recognize and emphasize the need for courage, integrity, honesty, and awareness of the narrative to ensure that AI does not dictate the content through which we define ourselves or are identified by, or regurgitate through AI the stories of 'others' we may have internalized unconsciously.

In that I may refer to new developments in science as a layperson to explore the emotional aspects of culture, I will share insights from my experience on how I have considered it in teaching 4D Design at the Technical University of Kenya. Through this framework, which encompasses, tools like storytelling and visualization, Ted talks, movies, and journaling, inclusive of literary inquiry for self-introspection, I highlight its importance in the process of content-creation through recognizing individual authentic stories in shaping cultural narratives and preservation. Content developers, in which designers partake, are influencers on society, the stories told in whatever form and how we see ourselves, Intentionally or otherwise.

By exploring these key themes, I hope by acknowledging the dynamic nature of culture, and the evolving influence of AI, to emphasize the importance of consciousness, the 'philosophy' behind our education today, by using the example of design, being part of the content creation ecosystem development of narratives as heritage.

47. A COLLABORATIVE DIGITAL TEACHING AND LEARNING LAB: A PILOT PROJECT IN DESIGN EDUCATION(DIGITAL LAB DESIGN)

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Claudia Mai

Abstract

This paper introduces the "Digitale Werkstatt Design" (DWD), a pilot project that established an interdisciplinary digital teaching and learning laboratory within the design department of the University of Applied Sciences FH Dortmund.

The DWD facilitates the integration of digitization in higher education by promoting collaborative learning in the fields of immersive technologies like augmented reality (AR), virtual reality (VR), data visualization, and creative computing. The initiative equips students and faculty with essential digital competencies, fosters innovative pedagogical methods, and creates a knowledge-sharing platform that complements the existing design curriculum.

48. ENHANCING PEDAGOGY USING A.I AND BIG DATA ANALYSIS. CONTEXTUALISING DATA VISUALISATION OF SUSTAINABILITY THEMES

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Abstract

This paper aims to conceptualise the role of Artificial Intelligence (A.I) and Big data in enhancing teaching and learning. Specifically, it draws from the experience of embedding the analysis and visualisation of A.I derived social media data sets of various Sustainability topics. These were selected by Students on two modules at Westminster Business School between 2020 and 2022. Additionally, The University of Westminster demonstrates its values of innovation and commitment by integrating the United Nations' 17 Sustainable Development Goals (SDGs) into its teaching, research, and operations, as a signatory of the EAUC SDG Accord and the London Higher Sustainability Pledge.

The use of computationally assisted tools and methodology was used by the students to evaluate large corpus of tweets sent during the initial teaching weeks. The emphasis was not on the development of social media skills but on Sustainability, which is a dynamic topic and the A.I tools were used to collect current data and analyse it.

Relatedly, the results showcase selected analyses of Social Media Data Sets that the students were supported to gather during workshops. These substantial and unique data sets were used by the students to create a collection of data visualisations of their data set using Tableau Software and/OR Excel. The students were required to produce and submit a critical analysis of results with wide implications for future innovative pedagogy and enhancing employability. It is widely accepted that universities today are required to produce graduates equipped with desirable knowledge and skills to compete and operate professionally in a 'learning age' and dynamic talent market (Hanson, 2010; Letcher David W. and Neves Joao S, 2010). The skills developed in collecting, analysing and presenting large data set are all highly transferable. Furthermore, the results illustrate the development of top skills in demand for all roles and industries according to the World Economic Forum (2023) future of jobs survey. These include new roles in big data analytics, A.I and machine learning that have been termed as priority digital skills. The second fastest growing job posting on LinkedIn 2018-2022 was for Sustainability Analysts with Big-data analytics poised to have the highest expected impact of technology adoption on jobs in the period 2023–2027.

The outcomes of this study aim to inspire scholarly discourse on Innovative tools for enhancing teaching and learning and developing digital skills and overall employability. In practice, it will illustrate wider opportunities for the use of A.I and big data in new media monitoring for stakeholder inclusivity via aggregation of public sentiment analysis and developing dynamic skills in the workplace. It will also recommend areas for further research in innovative pedagogy, Sustainability best practice, graduate skills development, embedding SDGs in the curriculum, stakeholder inclusion reporting methodologies and tools.

Keywords:

Artificial Intelligence (A.I), Bigdata, Publics' sentiment analysis, sustainability, SDGs, teaching and learning, stakeholder inclusivity, new media monitoring, digital skills.

49. TOWARD A FRAMEWORK FOR THE USE OF LEARNING MANAGEMENT SYSTEM (LMS) FOR KENYA'S PUBLIC EDUCATION SYSTEMS

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Abstract:

Under the Fourth Medium Term Plan, the Government of Kenya has planned to implement Learning Management Systems (LMS) at various levels of the education system with an overall goal to provide quality education for all learners in the Kenyan public education system.

The development of LMSs provides a platform for the use of AI to enhance learning. Adoption of LMSs in education in Kenya increased during the COVID-19 pandemic, however, successful implementation and continued use of LMSs was confined to some universities and elite schools.

The study used the Technology Acceptance Model (TAM) (Davis, 1989), to examine the adoption of technology and information systems. TAM's key components, such as perceived ease of use (PEOU), perceived usefulness (PU), and behavioural intention (BI), impact user attitude and adoption choices. The research applied TAM to adopting AI-powered learning management systems (LMSs) in educational institutions in Kenya, focusing on universities and elite schools.

Employing a constructivist paradigm, this study used participatory action research to explore the use of different LMSs in various educational institutions in Kenya. Through convenience sampling, the study selected five LMS managers from universities and five managers from elite schools for key informant interviews.

The results were derived from a thematic analysis and used to create a conceptual framework of best practices that the Government of Kenya may use to develop and implement LMSs and utilize AI in the public education system.

50. UNDERSTANDING THE SOCIAL-PSYCHOLOGICAL FACTORS SHAPING EDUCATOR'S TRUST AND ADOPTION OF ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION

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Abstract:

Technology has become an integral aspect of teaching and learning practice for millions of educators and students around the globe. The sudden popularity and wide accessibility of generative AI tools based on large language models, such as OpenAI's ChatGPT, has forced educators and academic policymakers to pay again attention to how technology is used in education.

Despite this attention, current research work fails to address the issues identified by seminal studies on why classroom technology has not had the transformative impact on education and learning outcomes that some prominent scholars predicted. This paper investigates how social, psychological, and contextual factors influence educators& perceptions and use of AI-based education technology.

It analyses their attitudes, trust, and application strategies to identify the barriers and enablers of practical implementation. Data for this study were collected using semi-structured interviews with n=8 university educators drawn from three universities (the Durban University of Technology, University of KwaZulu-Natal, and University of Johannesburg) in South Africa.

Findings revealed that educators' trust and use of AI tools are influenced by their familiarity with the technology, perceptions of its utility, and the socio- cultural environment of the university. Resistance often arises from concerns about data privacy, technological complexity, and perceived impact on teaching roles. This research argues that effective adoption and implementation of AI in higher education depend heavily on understanding the social-psychological factors influencing educators& trust and perception.

This research contributes theoretical insights into designing AI interventions that promote adoption and use, ultimately enhancing learning outcomes and educational equity.

Keywords: Artificial intelligence, Social-psychological factors, Educator perceptions, Trust and adoption, Higher education.

51. USING AI TO BRIDGE THE GAP BETWEEN TEXTUAL NARRATIVE AND VISUAL EXPRESSION: REFLECTING ON AN INTERIOR DESIGN STUDENT PROJECT

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Abstract

Interior Designers transform atmospheres into tangible concepts through visual methods, creating drawings, mood boards, rendered visuals, and other imagery integral to the design process. As a crucial cognitive tool for designers, visualizations aid in linking an individual's imagination, memory, and thought processes.

However, as educators, we observed visuals stripped of narrative and identity in the undergraduate design studio, which we attribute to technological determinism amongst students.

Increased computational power has led to an overreliance on hyperrealistic renders that appear 'dustless' and homogenous and possess qualities like anonymity and duplicability. To proactively encourage students to rethink technology's role as a tool, a project was launched in 2020 in a second-year communication technology module.

This project forms the basis of a continuous action research project in its fifth cycle. The project set out to restore affective practices, highlighting students' 'designerly' identity in their visuals. The students engaged in an introspective exercise by answering a self-discovery questionnaire that prompted the investigation into their 'designerly' identities. The textual responses were used to guide a visual manifestation of the self. We observe this to be a complex process that students struggled with in the preceding cycles of the project.

To assist students in identifying core themes, Open AI's ChatGPT was introduced as a tool for data analysis. Students were introduced to the foundation principles of thematic analysis and coded their responses to the self-discovery questions. Facilitators actively supported students in developing good-quality prompts through trial and error.

Students are exposed to the basics of data analysis and the rigour required for maintaining an ethical and transparent research practice. In this fifth cycle, the researchers reflect on two data sources: the student's prompts and engagement with ChatGPT, and the findings from a focus group to explore how the AI coding process guides students in moving from a textual narrative to a visual expression of the self.

52. ARTICULATING IMAGERY: THE INTERPLAY OF VISUAL ARTS AND LANGUAGE IN TRANSFORMING PERCEPTIONS

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Abstract

The purpose of this study is to explore the relationship between visual arts and language, particularly through the lens of artificial intelligence (AI), and to investigate how this interaction transforms human perceptions of art. The methodology involves analyzing various case studies, including AI-generated artworks and language-based art critiques, to demonstrate how AI can bridge visual and verbal representations. It employs techniques such as image captioning and semantic analysis to engage the audience with innovative narratives. The theoretical framework emphasizes the role of AI in redefining artistic creation and discourse, highlighting its implications for art education and communication. Justification for the research stems from the increasing prevalence of digital tools in mediating our understanding of art and the need to address ethical considerations around authorship and potential biases in AI-generated content. The implications of this research suggest that integrating AI into art and language can enhance appreciation and understanding of both domains, provoking discussion about creativity in a technology-driven society.

Keywords: Artificial Intelligence, Visual Arts, Language, Perception, Ethics

SUB THEME 6

Digital Transformation: AI and ICT

53. ADOBE TRANSLATING THE SOUTHERN AFRICAN LATE IRON AGE

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Abstract:

The proposed paper examines the application of Adobe's digital tools in artistically translating, interpreting, and intercepting archaeological visualisations of the Southern African Late Iron Age.

In an attempt to visualise a 'usable' African history, remains of Southern African Late Iron Age Settlements (900–1800) have been animated through illustration, across the late nineteenth, twentieth, and early twenty-first century (1871–2020) by researchers as well as in African nativist and nationalist rhetoric. Utilising tools such as Adobe Photoshop and Illustrator, researchers and artists in the digital age are able to visualise the Southern African long past in creative ways not previously possible.

The proposed paper aims to explore how the architecture of particular programs in Adobe's creative suite participates in shaping understandings of the past. The methodology followed in the paper is two-fold: It sensitively considers an intersection of the aesthetics of the virtual (made ubiquitous in the Digital Age) postcolonial, and decolonial modes of thinking; while making sense of the practicalities of image-making process using Adobes creative suite. The paper is written from an artistic and desktop user perspective.

The authors creative work, a collection of digital prints put together on Adobe's desktop editors, Illustrator and Photoshop, is used as a case study. The case study explores the technical realities of working within a digital world as well as artistic musings on its meaning.

The findings of the paper suggest that Adobe's digital tools are not to be understood as passive and thus inconsequential in the shaping of images. Instead, they should be seen as an active force capable of replicating the power structures of the world that creates them. The paper concludes with a reflection on the politics of Photoshop from an embodied user experience or what the paper asserts as, Adobe translating the Southern African Iron Age.

54. TRANSFORMING LIBRARY SERVICES: A COMPREHENSIVE LITERATURE REVIEW OF ARTIFICIAL INTELLIGENCE APPLICATIONS, IMPLICATIONS, AND STRATEGIC INTEGRATION

Nyalwal, Gombe George Eric

Abstract:

This comprehensive literature review explores the emerging role of Artificial Intelligence (AI) in enhancing library services across various global contexts. Oyetola et al. (2023) investigates the potential applications and implications of AI in Nigerian academic libraries, revealing a significant gap in awareness and adoption, yet underscoring AI's promise for innovative service delivery. Bradley (2022) discusses the emerging landscape of AI regulations, emphasizing the ethical challenges and the pivotal role of libraries in influencing policy frameworks. Liu (2023) presents the implementation of intelligent recommendation systems in university libraries, highlighting the efficacy of deep learning algorithms in optimizing talent training and user service. Ali et al. (2024) conducts a SWOT analysis on AI applications in Pakistani university libraries, highlighting the strengths, weaknesses, opportunities, and threats, and calling for strategic planning to maximize AI benefits. Cox (2023) examines the potential impact of AI on librarians' professional competencies and work dynamics, using theoretical lenses from library and information science and sociological theories of the professions.

Wang (2022) employs machine learning and natural language processing (NLP) to analyze library chat reference transcripts, demonstrating the potential for AI to streamline user inquiries and enhance service efficiency. Zhou (2023) explores the strategic adjustments needed in university libraries to adapt to the AI era, focusing on service concepts, modes, and professional competencies. Gasparyan and Kautonen (2022) provide an extensive review of AI's integration into research libraries, suggesting design thinking as a strategic approach to address AI-related challenges and opportunities. Lund and Wang (2023) offer insights into the capabilities of ChatGPT, discussing its potential to transform academic and library services while addressing ethical concerns such as privacy and bias.

The synthesis of these studies reveals AI's transformative potential across various library functions, including information retrieval, user engagement, service innovation, and professional development. This review underscores the critical need for strategic planning, ethical considerations, and ongoing research to fully harness AI's benefits and ensure its responsible implementation in library settings.

55. AN ANALYSIS OF THE IMPACT OF DESIGN THINKING ON AI-DRIVEN FACEBOOK ADVERTISING STRATEGIES: A CASE OF SAFARICOM ADVERTISEMENTS.

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Abstract

Artificial intelligence (AI) has become crucial in many fields as technology advances and the internet drives progress. AI analyses large datasets, expedites decision-making, optimizes content, and targets users. However, it has not replaced design approaches such as design thinking. Design thinking is an innovative methodology that integrates human needs, technological possibilities, and business requirements. This study explores the role of AI in applying design thinking principles to Facebook advertisements, using Safaricom as a case study among Gen Z youth at universities in Nairobi County.

Previous research shows that integrating design thinking into AI-driven ad strategies enhances their effectiveness. However, AI may inadvertently generate content that amplifies existing biases within generated content, and it may exclude specific demographic groups. Thoughtful integration of AI into design thinking boosts human creativity and problem-solving, empowering teams to innovate more effectively. Additionally, the study highlights the challenges Safaricom's design and marketing teams face in adapting to evolving AI technologies, emphasising the need for ongoing training and development to stay competitive in the dynamic advertising landscape.

The research combines qualitative and quantitative data to evaluate consumer perceptions and engagement with these advertisements through a mixed-methods approach. The qualitative component includes in-depth interviews with social media advertisement designers to understand their strategies for embedding design thinking into AI-driven advertisement development. Additionally, the quantitative aspect involves surveys and engagement analytics to assess consumer responses, interaction rates, and the overall effectiveness of the advertisements.

This study explores how AI and design thinking intersect in advertising, particularly on platforms like Facebook. Grounded in human values and sustainable innovation, the research offers insights into optimising AI-driven advertising strategies and provides practical guidance for crafting user-centred campaigns. Emphasising the pivotal role of design thinking in enhancing human experiences in digital advertising, the study underscores the significance of human creativity in a people-centric approach.

Keywords: Artificial intelligence, design, advertising, design thinking, human-centred approach.

56. ARGUMENTS AGAINST AI: THE PLAY ORET BY COSMAS BII AS A PERFECT EXAMPLE OF KENYA'S THEATRE AT CROSSROADS.

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Abstract:

This paper traces the journey of a play called Oret, which has been staged in more than ten venues in the North Rift Region of the Rift Valley between 2023 and 2024. The play's story interrogates the plight of female athletes in a patriarchal setting where vulnerabilities must emerge.

The paper is interested in the play's creation process, its rehearsals, its staging and the resulting discussions around the questions it dabbles in, to (re)imagine the place of Artificial Intelligence in the kind of theatre around Oret. In an argumentative fashion, the paper raises problems in relation to the aesthetics of storytelling right from how to craft a story, how to direct, and even how to act out parts.

The paper also raises concerns as regards interpretation of Oret, particularly as regards the discussions that follow; in other words, won't Artificial Intelligence within the theatre tend to deal a blow to the open-ended nature of human actions, such as facial expressions which should be interpreted any which way? In any case, how does Artificial Intelligence feature within long held ideas such as Roland Barthes' The Author is Dead, especially within contexts birthed by plays such as Oret?

Keywords: Kenyan Theatre, Oret, Eldoret, Gender Based Violence, 64 Theatre

57. BALANCING AI TOOLS AND STUDENTS' EFFORTS IN HIGHER EDUCATION: A CASE OF UMARU MUSA YAR'ADUA UNIVERSITY

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Abstract
Students at Higher Education incorporate Artificial Intelligence tools in their studies, and it is evidently clear that these tools have come to stay, and they make significant contributions academically. However, these AI tools raise some serious challenges about students' total dependency on them. Hence, this study seeks to determine the extent to which students of Umaru Musa Yar'adua university, Katsina depend on AI for academic tasks

and to devise methods that promote independent learning and intellectual development. Semi-structured interviews were used for collecting data that targeted students and lecturers.

To interpret the data, thematic analysis was used to examine the students' perception on conducting research independent of AI tools, and their stance on possessing critical thinking skills. The findings reveal students' serious dependency on AI tools to carry out assignments and academic research. Consequently, this dependency on AI tools has impaired the vision of inculcating the spirit of genuine research and developing critical thinking skills in the minds of Higher Education students. Again, the findings reveal that many among the lecturers are not aware of these problems, and there are no measures to address them without risking losing the positive sides of AI tools in education.

Among the recommendations made is to create an avenue for enlightening the Umaru Musa Yar'adua students on the decent use of AI tools to enhance their academic pursuance, encouraging lecturers to detect AI generated assignment to encourage original research and critical analysis. Also, to provide programmes for lecturers on how to integrate AI tools without risking independent research skills.

Keywords: Artificial Intelligent, Higher Education, Critical Thinking, , Student Effort, AI Dependency

58. TITLE OF PAPER: CYBER PRAGMATICS

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Title: Influence of reactions of social media (Facebook) users on Current trends/issues in Kenya.

Introduction

The paper intends to study the influence of reactions of social media (facebook) users on current trends and issues in Kenya. The study intends to observe the post shared by facebook users' current issues on facebook and the responses against the post which we can refer to as 'reaction'.

The reactions of the responses whether positively and negatively and the impact that was created.

Statement of the problem

More than half of the world now uses social media, with a percentage of around 62.6% and a population of 5.07 billion active users. Cowling, N. (2024, March 8), as of January 2024, states that social media users in Kenya stands at 13.05 million marking the fourth highest volume.

Facebook reigns supreme as an interesting social media thus preferred by its users at 47.5% in Kenya, report by Communications Authority of Kenya (CA). Facebook users' reactions in areas of concern such as health, environment, climate, politics and family has always helped to hold accountable parties involved.

Methodology

The paper intends to use qualitative and quantitative approach to investigate on the facebook users reactions. I will also use the theory of semiotic communication in explaining the pictures or captions used to convey information and diffusion of inventions theory to explain the communication of different facebook users.

Conclusion

The study will enlighten the facebook users on the importance of the content they share on social media.

59. DEMONSTRATING THE UTILITY OF AI IN ARTISTIC PRACTICE AND PROCESS AT TAFARIA CENTRE FOR THE ARTS

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Abstract

This paper explores, in a real-world context, several creative practice and process areas where AI has demonstrated its utility in cultural production. The context is Tafaria Centre for the Arts, the practice areas include fine art, music, sculpture, pottery and fashion.

The creative processes include ideation, sketching, modelling, prototyping, scripting, testing and production.

We demonstrate how AI is influencing:

- Ideation and visualisation - the capability of AI to generate ideas faster and with greater variety than the human mind and hand can, blending human emotion, creativity and capacity with machine durability, precision and capability
- Production at greater speed and lower cost - the ability of 3D printing to move from concept to finished product with speed, accuracy and variety and at lower cost than conventional manufacturing hence conserving and liberating resources

- Scalability - the ability to deploy AI widely with regard to geography and areas of application hence its potential for tech diffusion and inclusion
- Social impact - scalability demonstrates the potential for AI to come in service of real-world problem solving at scale.

Other questions being explored include:

- How could AI inform creative direction by linking artistic production to social-economic, cultural and / or environmental transformation?
- How could AI assist creative practice by contemporaneously informing artists about the historical significance, authenticity and /or impact of their creations?

Adoption of AI at Tafaria Centre for the Arts has immediate outcomes including liberating resource constrains, efficiencies and social inclusion. A good case study on the utility of AI in artistic practice and process.

60. EXPLORING THE INFLUENCE OF DIGITAL TECHNOLOGICAL ADVANCEMENTS ON ADOPTING NEW APPROACHES AND METHODS TO FILMMAKING SOUTH AFRICA

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Abstract

This research examines how advances in technology have influenced the South African film industry to adopt new methods and approaches to filmmaking. The value chain concept as a framework is used to examine changes in the film production process and new business practices due to technological advances. The development of digital technology has had a significant impact on the South African film industry's value chain in terms of film production, distribution and consumption.

The research, therefore, argues that the value chain of the South African film industry has been significantly impacted by the advancement of digital technology. This breakthrough has allowed independent filmmakers to break out of the inflexible single value chain that previously dominated the industry and implement unique release strategies tailored to the specific needs of each film.

The research used a qualitative research approach. Empirical data was collected through face-to-face interviews with ten film experts selected for their involvement and knowledge of the South African film industry. The qualitative data were examined using the thematic method. The results showed that due to the Advances in digital technology, the South African film industry has completely transitioned from analogue to digital filmmaking.

The research further found that digital cameras, lighting and sound equipment have replaced traditional film cameras and analogue recording systems, allowing filmmakers to shoot, edit and colour grade in camera. It was also highlighted that advances in technology have impacted the distribution of South African films, with digital streaming services and video-on-demand offering viewers new and more accessible alternatives to watching films. South African filmmakers can now reach a wider audience and gain international recognition. It was recommended that further research be carried out in the many segments of the film industry, such as the factors that influence audience consumption behaviour among the younger generation.

Keywords: Digital streaming services; Filmmaking; Netflix; OTT services; Showmax

61. GRAFFITI ART AND ARTIFICIAL INTELLIGENCE (AI): EVALUATING THE EFFICACY AND ADOPTABILITY OF AI IN GRAFFITI IN NAIROBI CITY

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Abstract:

This chapter is about the adoptability of Artificial Intelligence (AI) in graffiti art in Nairobi City. AI can be a powerful tool for graffiti artists to enhance their creativity, expand their artistic capabilities, and push the boundaries of traditional graffiti art. Arguably, among others, the lack of proper monetization of graffiti through such activities as advertising, and the common practice of anonymizing graffiti artists make it difficult to exploit new opportunities created by New Media Technologies.

We leverage visual analysis method with theories of Artificial Intelligence to explore how AI can be adopted into graffiti art to benefit the consumer, the artist, and other stakeholders. We argue that for a long time, graffiti's anti-status quo messages have made it to be regarded as rebellious by some people despite the public interest and just courses it champions in society. We shall purposively select graffiti around Nairobi, with view to analyse their efficacy and how they can adopt AI.

The findings shall reveal whether and how the adoption of AI into graffiti art can increase its efficacy. The implication of the research is to demonstrate how graffiti art – the long-neglected form of art in Nairobi City may increase its efficacy by adopting AI.

Key words: Graffiti Art, AI, Efficacy, Adoptability, Nairobi city.

62. LEVERAGING ARTIFICIAL INTELLIGENCE (AI) IN THE PROVISION OF INFORMATION SERVICES

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Abstract

New technologies can disrupt professions1 2and livelihoods. Consequently, many people react to or resit their adoption with some being part of the early adopters and others being the laggards as posited by Rogers in his Adoption Theory3

.Over time, written or documented information has been transmitted in various forms. Initially it was codified on stone walls and tablets, then parchments of scrolls, books and now there is more information accessible in digital than in written format. During all these periods, there was always the concern that there would no longer be need for librarians or information specialists as progressive media made it easier to ccess information.

One of the consequences of this school of thought has been the cutting down or non-prioritisation of library or information centres budgets.Information scientists have special information retrieval skills that are not found in the general populace.

With the dawn of AI, it is important that they once more embrace this new frontier and lead in harnessing the opportunities provided by AI to provide trustworthy information to information users.

This paper will analyse data gathered by the National Museums of Kenya for their current awareness service over a period of 4 years to see what additional insights the use of AI could have provided to users of this alert service. Just as information scientists for instance incorporated the use of the mathematical concept of Boolean Operators to facilitate improved and more precise identification of relevant information for their clients at the start of the digital era, this paper proposes that they should also be in the lead to harness AI for information provision. Lessons learnt may be used to transform the future provision of information services.

63. META-ANALYSIS OF INTERSECTION OF AI AND CREATIVITY IN THE ARTS

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Abstract

The use of Artificial Intelligence (AI) and machine learning techniques in the arts has been rapidly expanding, with artists and researchers exploring the potential of these technologies to enhance creativity and artistic expression. However, the empirical evidence on the overall impact of AI-infused arts remains fragmented. This meta-analysis was aimed at synthesizing the available research to quantify the effect of AI on artistic process of creativity and quality.

The research question for this meta-analysis was: "What is the impact of using AI technologies on the creativity and quality of artistic outputs?" A comprehensive search of electronic databases was conducted. This included ACM Digital Library, IEEE Xplore, Scopus, Web of Science, and Google Scholar, from January 2015 to June 2023. Key search words were determined, and inclusion and exclusion criteria were established. A total of 1,498 records were identified, of which 41 studies met the inclusion criteria.

The meta-analysis revealed a significant positive effect of AI-infused arts on f creativity. There was also a significant positive effect on the intersection of technology and human expression. However, further studies are required on the limitations and implications of AI's role in the arts.

Key Words: Artificial Intelligence, Arts, Creativity and Technology.

SUB THEME 7

Engineering the Future: AI-Driven Innovations and Solutions

64. CONVOLUTIONAL LONG SHORT-TERM MEMORY AND SUPPORT VECTOR MACHINES MODEL FOR VIOLENCE DETECTION IN SURVEILLANCE FOOTAGE

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Abstract:

Violence detection in surveillance footage is a critical public safety challenge requiring advanced technological solutions. Our project combines Convolutional Neural Networks (CNN), Long Short-Term Memory (LSTM), and Support Vector Machines (SVM) to predict violent episodes in video data.

We employ a pre-trained DenseNet121 model for CNN feature extraction, capturing

intricate spatial details in each video frame. A Convolutional LSTM (ConvLSTM) layer processestemporal aspects, analyzing how spatial features evolve over time. The final classification uses an SVM with a Radial Basis Function (RBF) kernel, allowing for non-linear decision boundaries to distinguish subtle variations in actions. Our hybrid model is trained on the UCF Crime dataset, with cross-validation using the RWF-2000 dataset.

We use Binary Cross-Entropy (BCE) as the loss function and Adam optimizer with a 0.001 learning rate. To prevent overfitting, we employ a 0.4 dropout rate and process data in batches of 32. Preliminary findings show our approach outperforms individual CNN or LSTM models. The Conv-LSTM-SVM model achieved 97.3% accuracy in identifying violent actions, compared to 75%, 80%, and 97% for LSTM, CNN, and Conv-LSTM models respectively.

We recommend extensive testing on diverse datasets to ensure generalizability across different environments. Optimizing for real-time performance is crucial for practical deployment. Exploring interpretability techniques could provide insights into the model's decision-making process, addressing legal and ethical considerations. Future development could include applying the model to anomaly detection and exploring continual learning strategies. Collaboration with law enforcement will be vital in refining the model's real-world relevance.

In conclusion, our Conv-LSTM-SVM model offers a promising approach to violence detection in surveillance footage, combining accuracy and potential interpretability. This research contributes to enhancing public safety through advanced video analysis, paving the way for more effective surveillance systems.

Key Words: Violence detection, Prediction, Feature extraction, Classification, Machine Learning, Video Analysis

65. AI AND ADAPTIVE ARCHITECTURE FOR AIRBORNE PANDEMIC PREPAREDNESS IN CHURCHES

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Abstract

In light of the recent global airborne pandemic, notably COVID-19, the intricate interplay between architecture, public health, and religious practices has come sharply into focus, leading to significant modifications in the perception and utilization of communal spaces and gatherings. This paper examines the impact of the recent global airborne pandemic, COVID-19, on the intersection of architecture, public health, religious practices, and the role of artificial intelligence (AI) in enhancing pandemic preparedness. The concept of

"Liturgical Space Preparedness" is introduced, focusing on innovative design solutions, spatial adaptations, and AI-driven strategies to address the unique challenges posed by airborne pandemics within sacred spaces. Centered on the Kenyan context, the study draws lessons from the COVID-19 experience and leverages AI to develop architectural strategies specific to Kenyan liturgical settings.

By integrating perspectives from architecture, public health, theology, local contexts, and AI, the paper proposes design strategies and spatial interventions that enhance the readiness of liturgical spaces for airborne pandemics.

The research aims to ensure the continuity of religious traditions while safeguarding the health and safety of congregants. Through detailed analysis, this paper provides insights into the rationale behind these AI-driven design innovations and offers comprehensive conclusions on the preparedness of liturgical spaces in the face of future airborne pandemics.

66. THE DISRUPTIVE POTENTIAL OF ARTIFICIAL INTELLIGENCE IN KENYA'S ARCHITECTURE, ENGINEERING, AND CONSTRUCTION SECTOR: ASSESSING READINESS AND IMPACT

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Abstract

Artificial Intelligence (AI) is set to revolutionize global industries, including Kenya's Architecture, Engineering, and Construction (AEC) sector. Historically reliant on manual processes and linear workflows, Kenya's AEC industry faces challenges such as inefficiencies in project management and limitations in design optimization.

The introduction of AI technologies, including machine learning, computer vision, and natural language processing, offers the potential to address these issues and drive significant industry transformation. Furthermore, it has often been stated that while AI may not replace professionals, those professionals who use AI will most likely replace those who do not. Consequently, this research explores AI's disruptive potential within Kenya's AEC sector, focusing on the current state of technological readiness and the impact of AI adoption. The study evaluates existing technologies like Building Information Modeling (BIM) and examines how emerging AI applications can enhance aspects such as predictive analytics, automation, and project efficiency. Through comparative analysis of international case studies and Kenya's industry practices, the paper provides strategic recommendations for stakeholders and policymakers, including policy adjustments, training programs, and pilot projects.

The findings reveal that while Kenya's AEC sector has foundational technological capabilities, it faces challenges such as gaps in infrastructure, financial constraints, and a skills shortage. Nevertheless, there is growing interest in AI-driven solutions, indicating a readiness to integrate these technologies into industry practices. The paper concludes by exploring future trends and the long-term implications of AI on the industry's evolution. AI integration promises to improve efficiency, reduce costs, and foster innovation within Kenya's AEC sector. However, achieving full AI adoption will require addressing existing challenges through strategic efforts, positioning Kenya's AEC industry for a transformative leap forward.

67. ARTIFICIAL INTELLIGENCE IN THE CONSTRUCTION INDUSTRY IN KENYA: TRENDS, OPPORTUNITIES AND CHALLENGES

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Abstract

The construction industry has been criticised for being very slow in embracing innovative digital technologies, including Building Information Modelling (BIM), robotics, drones, 3D printing, and recently Artificial Intelligence (AI). AI is the ability of machines to replicate human capabilities through learning and automation. With the potential to transform all sectors of our economies and propel us to the Fourth Industrial Revolution, we cannot neglect its applications and impacts in the construction industry which has consistently made significant contributions to the Gross Domestic Product (GDP), gross capital formation and employment creation in Kenya. However, the rate of development and advancement of AI is super-fast, compared to the slow digitalisation of the construction industry. This raises the question: what is the status of the application of AI in the construction industry in Kenya?

This paper aims to establish the status of applications of AI in the construction industry by identifying the current trends; establishing opportunities created by the use of AI; and identifying challenges of AI usage. This will be done through a survey of literature and content analysis of significant industry and government policies, statements and regulatory reports. By understanding the transformative potential of AI, construction leaders can make informed decisions on its strategic and deliberate adoption to improve project efficiency, make construction sites safer, reduce cost and time overruns; and inform policymakers, professionals and researchers on key emergent opportunities to be exploited, and challenges that require immediate attention.

68. IMAGINATIVE FRAMING OF CLIMATE CHANGE POLICY NARATIVES USING ARTIFICIAL INTELIGENCE

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Abstract

The way climate change is framed in policy narratives has a substantial impact on public perception, stakeholder participation, and policy outcomes. Traditional climate change narratives have mostly focused on scientific evidence, economic repercussions, and political debates, which, although important, frequently fail to engage the public or motivate the transformative action required to address the scope of the problem. The advent of Artificial Intelligence (AI) presents a promising opportunity to frame these narratives in ways that captivate the imagination, develop greater understanding, and galvanize action.

Though AI has the potential to revolutionize climate change communication, little is known about how it can be applied to policy narratives related to climate change. The majority of previous research has been on the use of AI in data analysis, modeling, and prediction related to climate change, with little consideration paid to how AI may be used to reimagine and communicate policy narratives.

Furthermore, little research has been done on the ethical ramifications and practical difficulties of applying AI in this field. This gap emphasizes the necessity of doing a comprehensive analysis of AI's ability to revolutionize narrative communication and its impact on policy-making.

In order to close the gap between traditional policy discourse and the revolutionary potential of AI-generated narratives, this article aims to investigate the potential capacity of AI to reimagine climate change policy narratives. It will specifically explore possible AI tools and how they can be used to develop and communicate policy narratives creatively; assess the potential effects of climate change narratives produced by AI on public opinion; investigate ethical issues related to AI narrative generation; and, finally, pinpoint best practices for sharing AI-generated narratives.

69. IMPACT OF APPLICATION OF AI TECHNOLOGIES IN BRIDGE DESIGN, CONSTRUCTION AND MAINTENANCE: A CASE STUDY OF THE MOMBASA GATE BRIDGE PROJECT

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Abstract

Cable stayed bridges are particularly intriguing owing to their striking designs and aesthetic appeal, besides exhibiting high structural efficiency. The purpose of this paper is to study the impact of applying Artificial Intelligence (AI) in the development of the upcoming Mombasa Gate Bridge (MGB), a cable stayed bridge, scheduled for construction starting late 2024 in the coastal region of Kenya.

To achieve this purpose, this study focuses on three main objectives. First, this study investigates the AI-tools applied to enhance the MGB's structural design. Second, this study explores AI methods applicable in construction planning of the MGB.

Third, the study looks into the role of AI in structural health monitoring for the MGB and the importance of AI in early detection of potential failures. This study adopted various methodologies including analysis of design documentation, interviews and questionnaires.

The results from the study indicated that, through advanced simulations, AI identifies optimal structural configurations that enhance strength, durability, and cost efficiency. Additionally, during construction planning, AI technologies significantly streamline project management processes, optimizing resource allocation and minimizing delays and cost overruns. During maintenance, AI plays a critical role in assisting maintenance Engineers to select suitable maintenance, repair and rehabilitation methods.

However, despite the numerous advantages, the results indicate that AI application faces challenges especially in terms of expertise, skills, high investment costs and accuracy in the case of complex designs.

This research established that integrating AI technologies throughout the lifecycle of a project has Significant impact. Using AI in the development of the Mombasa Gate Bridge sets a precedent for leading innovation in infrastructure development in Kenya and East Africa at large.

The findings not only contribute to advancing bridge engineering practices but also demonstrate the significant role of AI in shaping sustainable and resilient infrastructure for the future.

70. INTELLIGENT GANTRY CRANE SYSTEM USING FUZZY LOGIC CONTROLLER

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Abstract

This paper presents an investigation to determine the effectiveness of Fuzzy Logic Controller (FLC) for controlling swing motion of a nonlinear gantry crane system.

The nonlinear gantry crane system is considered and its dynamic model of the system is derived using the Euler-Lagrange equation of motion. The main objective of this research paper is to design and implement a controller for a gantry crane using fuzzy logic controller and compare it with classical Proportional Integral Derivative (PID) controller.

The validity of the Lagrange equation to compensate swing motion has been discussed. The complete system design simulation is done in MATLAB/Simulink environment using different input signals to determine the robustness of the ***FLC to damp the load swing motion. The overall performance shows that Fuzzy Logic Controlle is a better controller method compared with a tuned classical PID controllers.

Key words: Fuzzy Logic Controller, Gantry crane system, Lagrange equation, PID controller, MATLAB/Simulink and Unstable system.

71. LEVERAGING AI'S TRANSFORMATIVE CAPABILITIES TO EXPEDITE SDGS ACHIEVEMENT IN THE CLOTHING INDUSTRY OF SOUTH AFRICA: IMPLICATIONS FOR POLICYMAKERS

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Abstract

The clothing industry is among the world's most polluting industries, which adversely impacts the achievement of sustainable development goals (SDGs). Due to its weak competitive advantage, South Africa's clothing industry is exposed to dumping practices that increase the environmental challenges that threaten the achievement of SDGs. Globally, AI has been introduced across industries and demonstrates the potential for advancing SDGs. This body of knowledge on AI and SDGs is generally from the north thus more research is necessary from the south and Africa. The paper discusses how artificial intelligence (AI) can be utilized to accelerate the achievement of SDGs within South Africa's clothing industry.

As a review paper, the paper employs a technology-organization-environment (TOE) framework to (i) discuss the clothing industry, sustainability and policies in the clothing industry, (ii) to evaluate the utilisation of AI in promoting sustainable practices to achieve SDGs, (iii) to identify AI's transformative capabilities available to the clothing industry of South Africa to expedite SDGs achievement, and (iv) to propose policy recommendations that may leverage AI's in the clothing industry of South Africa to expedite the realization of SDGs. The paper advances the body of knowledge from the South by presenting innovative ways to address SDGs through AI and policy intervention in the clothing industry of South Africa.

The conclusions drawn from this study offer lessons for other African countries on possible policy interventions to use AI to achieve SDGs in Africa.

Keywords: Clothing industry, AI, SDGs, Sustainability, Policy, Technology-Organization-Environment

72. PERFORMANCE CHARACTERIZATION OF A PROTOTYPE PARABOLIC DISH SOLAR CONCENTRATOR

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Abstract

The need to cut down on carbon based sources of energy to reduce environmental pollution and the vibrant carbon credits market has caused the increase in use of solar concentrating power. The characterization of a parabolic dish solar concentrator in terms of efficiency with various heat transfer fluids, heat transfer fluid solar thermal heat output and steam flow rate output is presented. The design of parabolic dish solar concentrator was carried out by use of Auto cad 2010.

The parabolic dish characterization was carried out in accordance with ASHRAE 93 – 77 standards. The range of efficiencies of the collector were obtained as 52.8 % for engine oil and 64.1 % for 10 M sodium chloride solution. The heat absorption range for the heat transfer fluids was obtained as 3000 Js -1 to 9500 Js -1 for pressures of operation between 1.2 Nm -2 to 3.5 Nm -2 while the steam flow rates range was between 1.5 kg h -1 to 12 kg kg h -1 . The off grid areas can benefit from use of the parabolic dish for power production.

Key words: Parabolic dish, ASHRAE 93 – 77, Efficiency, Steam flow rate

SUB THEME 8

Human-Centric Design and User Experience

73. A CRITICAL ASSESSMENT OF STAGE VISUAL CULTURE AND HUMAN CENTRIC TOOLS IN THEATRE PRODUCTIONS IN GHANA

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Abstract

Artificial intelligence (AI) tools in this era are being used in various fields such as healthcare, education, media, and language to produce quick results to ease the burden on humans. Its usages have been characterized by phrases such as human centric tools, enablers and the like. But in some parts of the world there are a lot of cynicism in the use and efficacy of these tools. They are at times perceived to be susceptible to plagiarism and ethical values. Theatre, one of the media that makes use of stage visual culture is identified with the use of machine since time immemorial and has blossom in this dispensation with the advent of computers and robotic machines for theatre making.

From the above statements, this research seeks to find how theatre production is exploring human centric and AI tools in their presentation of theatre in Ghana and the impact on live audience. This research will also look at the challenges, experiences, and success of human centric and AI tools in theatre productions. Using descriptive and survey research methodologies, data will be collected through observation, interview, and questionnaire.

Findings of this research will contribute to the inclusivity of human centric and AI tools for meaning making in theatre production in Ghana.

Keywords: Visual culture, human-centric tools, and theatre production

74. ORGANIC FERTILIZER BLEND THAT MITIGATES THE ABSORPTION OF HEAVY METALS AND ENHANCES PLANT NUTRITION

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Abstract

This project explores the potential of organic waste materials—specifically, brewery spent grains, wood ash, and rabbit manure—as sustainable fertilizers.

We aim to enhance plant growth and reduce heavy metal absorption in soil by transforming these byproducts into nutrient-rich compost, promoting eco-friendly agricultural practices, and addressing environmental contamination. We collected and ground the brewery spent grains, wood ash, and rabbit manure for uniformity, mixing them in four ratios: 2:1:2, 1:1:2, 3:1:1, and 1:1:3. This mixture decomposed for three weeks, resulting in stable, humus-rich compost. Lead tests were conducted using two methods: one involved combining 40 grams of soil with 20 grams of each fertilizer sample and 2 ml of lead solution; the other mixed 40 grams of soil with 2 ml of lead solution and 40 grams of each fertilizer sample. Testing occurred every three days for a week, using a precipitation test with HCl.

For planting trials, we added 40 g of each fertilizer to the soil for growing bean plants and measured leaf size, chlorophyll content, and stem length over two weeks. Significant differences in plant growth and heavy metal absorption were noted among the samples. Sample A (2:1:2) achieved a leaf size of 3.40 cm with a minimal lead absorption absorbance score (ABS) of 0.769. Sample B (1:1:2) had a leaf size of 3.0 cm and higher lead absorption, ABS of 0.623. Sample C (3:1:1) excelled with a leaf size of 4.2 cm, no lead precipitate, and ABS of 0.761, making it the best blend for growth and heavy metal mitigation. Sample D (1:1:3), as a positive control, showed a leaf size of 5.0 cm but considerable precipitate. The organic fertilizer blend from Sample C (3:1:1) proved most effective in promoting healthy plant growth without heavy metal contamination.

75. CURATORIAL AS THE CRITICAL CREATIVE ARTISTIC MEDIUM

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Abstract

The paper reports on the curatorial activities of an art educator and students as a joint creative artistic medium. Set within the participatory aesthetics/art the paper argues that curatorial is a major aspect of narrating the concept the artist is conveying taking the creation process to the highest and relevant conceptual level. Participatory aesthetics relates to interactive art as well as the dialogical action envisaged between the final installations and the viewers. It argues that the value and iconographic meaning of artifacts depends on the curatorial representation.

Together with one of the author's exhibition projects an overview from a cohort of postgraduate art students who pursued practice-led and or practice-based art research are presented. It highlights the roles played by the instructor/supervisor/mentor and the students/mentees in the conceptualization, creation, and installation process of the final exhibition projects. Educational turn in art is at the core of the whole process towards enriching not only the teaching and learning practice, but to turn the whole art creation experience into the production of new, original, and valuable knowledge.

The main objective of the paper is to elevate the important role the final presentation of artifacts has in articulating the exhibition narrative confirming that the installation is a creative process on its own right, be it done by the artist him/herself or by an independent curator. Finally, improvement of the artistic practice of the participants also benefits from the joint artistic setting-up during the installation process.

Key words: Curatorial; Participatory aesthetics; artistic medium; Conceptual art; Educational Turns.

76. SOME PITFALLS IN AI-INFLUENCED EAST AFRICAN VISCOM

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Abstract

This article is a critique of a cartoon image on the cover of a book entitled 'Indigenous Knowledge and Sustainable Development.' The thesis is that the image in question does not truthfully illustrate indigenous knowledge or practice.

In short, the illustration tells us that neither the book's designers nor editors noticed that the image contradicts indigenous African

culture. While we can speculate that the image is a composite of two images and that it was AI-influenced we must accept that the African editors and designers played significant roles in selecting and placing it on the cover of their book

Discourse analysis and participant observation, going back to the 1950s, were the primary means that we used to obtain data for this article. Essentially, we draw on our intensive, extensive and diverse experience in study, professional practice, design education and scholarly engagements in East Africa to argue in support the thesis. In the end we can also deduce that the design of the book cover was not the outcome of objective information or analysis of indigenous knowledge, but rather a product of uninformed imagination or AI.

The many kinds of bodily distortions that characterize Western-based situational representation, often comical, are not common or are absent in the art of many non-Western communities. The editors have chosen a cartoon image that reflects a particular type of cartooning. This type of cartooning includes exaggeration of buttocks while thinning out torsos and limbs. The color is uncompromising black for the people and pastels for their clothing.

Images of Non-Western peoples, especially Africans and native Americans abound in the 'historical record ". Starting from the Age of Discovery – between the 16 th and 17 th centuries, there is a plethora of images that purport to

represent the major ethnicities but actually may not. We get to 'may not' by noting the distinct imagery of the Sea Peoples who invaded the Levant and Egypt in ancient times. We note similarities between the images that appear in bas relief in ancient Egypt and the two male figures that appear on the book cover. We can recall seeing similar images clad with a single straight row of fairly short feathers in images that range from the 1500s to the mid-20 th century. These images raise questions on the accuracy in representing images of the 'other'.

Key Words: image, communication, critique, indigenous Africa, artificial intelligence.

77. ASSESSING THE TRANSPORT EQUITY AND ACCESSIBILITY GAP CLOSURE THROUGH INCLUSIVE ROAD DESIGN; CASE STUDY, NAIROBI, KENYA

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Abstract

Roads are important arteries people use to connect from one point to another to access needs. People with mobility challenges are limited by the existence of physical barriers in the road environment. These barriers are often caused by design, construction and maintenance practises that do not take into consideration the needs of people with mobility challenges. T

he barriers are more pronounced in Low Income Countries (LICs). The starting point for road provision, barrier removal, reduction and elimination could be the road design stage.

This study aimed at assessing the potential of the design stage as a starting point in achieving a barrier free transport environment that includes all vulnerable road users and specifically those with mobility challenges. The study adopted a qualitative process combining literature review and expert interview in a two round Delphi method interview process.

The study established the potential of inclusive design as a solution to the barriers experienced by road users. Taking Kenyan as a Case country the study proposed revision of the design process, manuals and teams, involvement of people with mobility challenges, and systematic awareness creation for an inclusive transport system.

The study sought to assess the potential to introduce an element in a process, it can be replicated to introduce other key elements, new or novel consideration into a design process without starting a new process. This is an original study since it addresses accessibility challenges experienced in transport infrastructure by people with mobility challenges with Design process as a starting point.

Key Words:, Road Design, Transport Accessibility gap, inclusive design, Mobility, challenges, Engineers, Design thinking, Human-Centred Design.

78. REVISITING THE MANEATERS OF TSAVO: SITUATING THE LIONS IN CONTEMPORARY VISUAL CULTURE

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Abstract:

This presentation explores the enduring visual and cultural legacy of the so-called Maneaters of Tsavo, two lions responsible for the deaths of numerous workers during the construction of the Uganda Railway in 1898. Our research, conducted collaboratively over several years, delves into how these lions have been represented and reimagined across various media, from Lieutenant- Colonel John Henry Patterson's early 20th-century accounts to contemporary film and museum displays.

Central to our inquiry is the interrogation of the narrow, imperial-era narrative that has long dominated the story of these lions—a narrative that not only glorifies colonial heroism but also marginalizes the voices and experiences of the workers, many of whom were indentured laborers from the Indian subcontinent.

By examining alternative stories and representations of the Tsavo lions, particularly those emerging from Kenya, we seek to understand the broader implications of this historical event within the context of contemporary visual culture.

Our approach is twofold: we have conducted a series of interviews with scholars, artists, and community members to uncover the multiplicity of meanings attributed to the lions today, and we have developed an experimental podcast as a dynamic, web-based repository for these voices.

Through this multimedia project, we aim to challenge the persistent colonial tropes associated with the Tsavo lions and explore how they might be re-contextualized within a decolonial framework.

This work contributes to broader discussions on the restitution of cultural heritage and the re-examination of historical narratives. By critically engaging with the visual culture surrounding the Tsavo lions, we highlight the complex interplay between memory, identity, and power in the ongoing discourse on colonial legacies.

79. EXPLORING OPPORTUNITIES FOR AI IN HUMAN CENTRED DESIGN EDUCATION

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Abstract

Education is only one of the industries that artificial intelligence (AI) has the potential to completely disrupt. AI has emerged as a game-changing technology. The potential that artificial intelligence (AI) offers for human-centered design education are highlighted in this abstract. Teachers can better prepare pupils for the challenges of the digital era and improve the learning experience for their students by incorporating AI tools and techniques into the curriculum. To meet the unique demands and learning preferences of each student, AI-driven systems can offer performance statistics, adaptive feedback mechanisms, and individualized learning routes.

One significant potential is to use AI to build dynamic, captivating learning environments that mimic actual design situations. By analyzing student data, AI systems can pinpoint learning patterns, strengths, and shortcomings so that teachers can adjust their pedagogical strategies. Furthermore, encouraging creativity and innovation in the learning process, AI-powered design tools can help students with brainstorming, prototyping, and assessing design ideas.

Additionally, by automating repetitive processes like assignment grading and rapid feedback, AI can improve the assessment process. Teachers can concentrate on more important facets of students' growth while also saving time thanks to this. The use of AI in assessment can help human-centered design education transition to a more effective and impartial evaluation system.

In summary, the goal of this paper is to investigate, via in-depth research and analysis, the potential applications

of artificial intelligence (AI) technologies in human-centered design education. As a result, many prospects will be highlighted for raising student achievement, encouraging innovation, and enriching their educational journey. It has been demonstrated that AI technology can enhance and augment human teaching. Educators possess an exciting chance to benefit the upcoming generation of design professionals by utilizing AI developments as they continue to progress.

Key Terms: AI, Human Centred Design, Education

80. FROM TRADITION TO INNOVATION: AI-DRIVEN HERITAGE BUILDING INFORMATION

MODELING SOLUTIONS FOR ADAPTIVE REUSE IN KENYA

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Construction advancements over millennia have resulted in buildings that often outlive their original functions and users. To maintain their functional and economic value, adaptive reuse has become a prevalent practice. Traditionally, this process has relied on linear, sheet-based methods and manual tools, leading to various challenges. Heritage Building Information Modeling (HBIM), however, utilizes digital tools and a cyclic, collaborative Integrated Project Delivery (IPD) workflow, offering a more effective approach to heritage preservation and restoration. Integrating Artificial Intelligence (AI) and other emerging technologies with HBIM presents a transformative opportunity for adaptive reuse. AI enhances predictive analysis, automates routine tasks, and optimizes workflows, while technologies such as digital twins and augmented reality (AR) improve HBIM accuracy and efficiency.

This research examines the current state of HBIM adoption in Kenya's adaptive reuse projects and explores how AI and emerging technologies can address existing challenges. The study reveals that while HBIM adoption is present at varying levels, there is significant potential for AI and other technologies to streamline processes and facilitate better decision-making. Survey findings indicate a growing interest in AI-enhanced HBIM applications, suggesting a preference for integrating these technologies into the adaptive reuse process. In conclusion, integrating HBIM with AI and emerging technologies, supported by an IPD workflow, can significantly improve adaptive reuse practices in Kenya. Although manual tools remain valuable for specific tasks, the complementary use of advanced technologies promises more efficient, accurate, and sustainable outcomes in adaptive reuse projects.

81. CURATORIAL AS THE CRITICAL CREATIVE ARTISTIC MEDIUM

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Abstract

The paper reports on the curatorial activities of an art educator and students as a joint creative artistic medium. Set within the participatory aesthetics/art the paper argues that curatorial is a major aspect of narrating the concept the artist is conveying taking the creation process to the highest and relevant conceptual level. Participatory aesthetics relates to interactive art as well as the dialogical action envisaged between the final installations and the viewers. It argues that the value and iconographic meaning of artifacts depends on the curatorial representation. Together with one of the author's exhibition projects an overview from a cohort of postgraduate art students who pursued practice-led and or practice-based art research are presented. It highlights the roles played by the instructor/supervisor/mentor and the students/mentees in the conceptualization, creation, and installation process of the final exhibition projects. Educational turn in art is at the core of the whole process towards enriching not only the teaching and learning practice, but to turn the whole art creation experience into the production of new, original, and valuable knowledge. The main objective of the paper is to elevate the important role the final presentation of artifacts has in articulating the exhibition narrative confirming that the installation is a creative process on its own right, be it done by the artist him/herself or by an independent curator. Finally, improvement of the artistic practice of the participants also benefits from the joint artistic setting-up during the installation process.

Key words: Curatorial; Participatory aesthetics; artistic medium; Conceptual art; Educational turns.

82. BENEFITS AND APPLICATION OF ARTIFICIAL INTELLIGENCE (AI) FOR INFORMATION SERVICES DELIVERY IN SOME UNIVERSITY LIBRARIES IN KATSINA STATE, NIGERIA

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Abstract

The paper investigated the benefits and application of AI in some university libraries in Katsina State. The study outlined two research objectives: to identify the benefits of AI applications for information services delivery and to identify areas of AI application for information services delivery. The study used technology Acceptance Model (TAM) to guide the study which employed quantitative cress-sectional survey design. Out of the 1287 library staff members, 165 were selected from three university libraries in Katsina state. Questionnaires were used to collect data and the data was analyzed using descriptive and inferential statistics in SPSS. The findings indicated that libraries and library staff may derived various benefits from the application of AI such as to bring innovations to librarians; improvement in library automation; enhancing librarians' productivity; promoting better and easy access to information; improving user satisfaction; improving security of library resources; and maximizing library services, and improving librarians' working capability ETC.. Moreover, the finding reveal that AI can be applied to deliver information services which include information retrieval service, reference service, translation and teaching support service as well as the research clinic.

The study recommends that library management should raise awareness of AI benefits through campaigns, and workshops, collaboration and sharing of their experiences and insights in various collaborative environment such as Nigerian Library Association (NLA), American Library Association (ALA) and International Federation of Library Association (IFLA) where they can learn and hear from one another the benefits that can be driven through AI application and to develop best practices. There is need for increase support of government agencies and funding bodies such as Ministry of Education and National University Commission (NUC), Tertiary Education Trust Fund (TETFund), University management and libraries management to invest heavily in AI support infrastructure and training for university library staff.

Key Words: Artificial Intelligence, Benefits and Application of AI, Information Services Delivery, Library, Library Staff

THE EAST AFRICAN COMMUNITY ANTHEM

Ee Mungu twaomba uilinde
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Tuwezeshe kuishi kwa amani
Tutimize na malengo yetu

Jumuiya yetu sioe tuilinde
Tuwajibike tuimarike
Umoja wetu ni nguzo yetu
Idumu jumuiya yetu

Uzalendo pia mshikamano
Viwe msingi wa Umoja wetu
Na tulinde Uhuru na Amani
Mila zetu na desturi zetu.

Viwandani na hata mashambani
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Tujitoe kwa hali na mali
Tuijenge jumuiya bora.

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Chou kikuu cha ufundi Kenya,
Lengo Lake kuboresha maisha,
Kwa elimu na ujuzi bora.

Nadira yetu chou chetu kipendwa,
Teknolojia kiwe chou bora,
Nadhima yetu hakika kutoa,
Elimu na mafunzo yenye ujuzi, mkubwa.

Wajibu wetu na lengo muhimu,
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