AI ETHICS
SUMMER
SCHOOL
August 2024

REPORT

PAN - AFRICA
CENTER FOR AI-ETHICS

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Editor-in-Chief

Supported by:

THOMAS ADEWUMI
UNIVERSITY
Science | Technology | Medicine

Ubuntu
Artificial Intelligence Community

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EXECUTIVE SUMMARY

RETHABILE TSEPHE
Summer School Coordinator

The AI Ethics Summer School was a month-long virtual learning experience designed to cultivate a deep understanding of AI ethics among students, early-career professionals, and policymakers across Africa. With 20 structured learning sessions—comprising 13 core modules and 7 electives—each session featured a clear lesson plan, supported by assessments, projects, and a final examination. This comprehensive curriculum aimed to bridge the gap between AI ethics theory and practice, fostering a future where African-led AI initiatives are positioned at the forefront of responsible and ethical innovation.

The Summer School addressed a critical need by equipping the current and next generation of African AI researchers, developers, and policymakers with the skills and knowledge to actively participate in AI ethics discourse, contribute to policy development, and lead ethically driven projects across various sectors.

The success of the Summer School was bolstered by strategic collaborations, including the partnership with Thomas Adewumi University and Ubuntu AI Community in Zambia. This initiative marks a significant step toward strengthening AI ethics capacity across the continent and ensuring that African voices are central to the global dialogue on the ethical implications of AI.

COMPANY OVERVIEW

VISION

Shaping the Future for Africa's AI landscape to reflect the ethical and responsible dimensions of the African society.

MISSION

To ensure that AI design, deployment and use align with Africa's ethical standards and values. We are committed to promoting human-centric AI within the African context.

INTRODUCTION

Background

The rapid global adoption of artificial intelligence (AI) has made the need for robust ethical guidelines and frameworks more critical than ever. As AI systems increasingly influence critical areas such as healthcare, finance, education, and governance, the potential for unintended harms such as bias, discrimination, and privacy breaches has become a pressing concern. Addressing these issues requires diverse perspectives that account for the unique cultural, social, and economic contexts in which AI technologies are deployed.

Despite its growing relevance, the African perspective on AI ethics remains significantly underrepresented in global dialogues. This underrepresentation poses a major gap in the global AI ethics landscape, given that Africa's rich cultural diversity and dynamic socio-economic environments can provide valuable insights for creating more inclusive and context-aware ethical frameworks. The continent's unique challenges and opportunities—such as limited digital infrastructure, diverse linguistic landscapes, and varying levels of technology adoption—highlight the need for an AI ethics approach that is tailored to the realities of African communities.

The AI Ethics Summer School was established to address this gap by building local capacity, nurturing expertise, and empowering the next generation of African AI researchers, developers, and policymakers. By equipping participants with a solid understanding of AI ethics principles and fostering critical discussions, the program aims to ensure that African voices are actively shaping the discourse around the ethical use of AI.

The summer school not only focused on teaching the foundational principles of AI ethics but also emphasized the importance of contextualizing these principles to address region-specific challenges.

Through this initiative, the AI Ethics Summer School seeks to amplify African perspectives and enable participants to contribute to the creation of ethical AI systems that respect and reflect the values, needs, and aspirations of African communities. By fostering local leadership and strengthening regional expertise, this program aspires to position African experts and institutions as key contributors to global AI ethics conversations, ensuring that Africa's role in the ethical development and deployment of AI is both recognized and valued.

Objectives:
- Understanding the Ethical Foundations of AI
- Addressing Local and Global Ethical Challenges
- Implementing Responsible AI Practices
- Engaging with Policy and Regulation
- Building Ethical AI Solutions for Social Good
- AI Ethics Impact Assessment
- Algorithm Auditing Framework
- Develop team-based collaborative research and writing expertise

PROGRAM INSIGHT

DATES AND LOCATION

The Summer School was conducted virtually from August 5th to August 27th, 2024. All sessions were hosted using the Zoom video conferencing platform, providing an accessible and interactive environment for participants. Over the course of the program, a total of 13 sessions were held, covering a diverse range of both technical and non-technical topics. Each session was carefully curated to provide comprehensive learning experiences and was led by expert facilitators in their respective fields. Below, you will find a detailed table outlining the sessions, their respective dates, and the facilitators who contributed their expertise to this enriching educational experience.

Date	Session	Facilitators
August 5	Introduction to AI Ethics	Kingsley Owadara
August 8	AI and Decision making	Kingsley Owadara
August 9	Privacy and Data Protection	Susan Otieno
August 15	AI and Cyber Security	Damlola Gbadamosi
August 19	AI and Healthcare	Damilola Awotula
August 22	AI and Disinformation	Rethabile Tsephe
August 23	AI and Employment	Demola Scott
August 23	Policy Session	Adeboye Adegoke
August 26	Algorithm Audit	Karthik Mahalingam
August 27	AI Risk Impact Assessment	Jeffrey Recker
August 10,17, 24	Python Session	Newman Haruna

Scan the barcode to view all the recorded sessions of the AI Ethics Summer school

CURRICULUM OVERVIEW

The Summer School was meticulously designed to comprehensively address key aspects of AI Ethics, encompassing technical, social, legal, and philosophical dimensions. Recognizing the multifaceted nature of AI Ethics, the program aimed to provide participants with a holistic understanding of these critical areas.

The technical sessions were particularly focused on the intersection of AI with cybersecurity, offering in-depth explorations of how AI technologies can both enhance and be threatened by cybersecurity practices. Participants engaged in hands-on Python sessions, which provided them with practical skills in programming and algorithm development, essential for ethical AI development. Additionally, the curriculum included AI Audits and AI Risk Impact Assessment, where attendees learned to evaluate and mitigate potential risks associated with AI deployment, ensuring alignment with ethical standards.

The legal dimension of the Summer School was equally robust, addressing pressing issues such as Data Protection, which is crucial in the age of AI-driven data analytics. Sessions on AI in Healthcare examined the ethical and legal implications of AI applications in medical diagnostics and treatment, while discussions on AI and Criminal Justice explored the complexities of AI's role in law enforcement and the judicial system.

The AI Policy session provided insights into the regulatory frameworks that govern AI technologies, and the AI and Disinformation session tackled the challenges of AI-generated misinformation and its societal impacts.

Philosophical considerations were also a cornerstone of the program, with sessions dedicated to the ethics of AI in decision-making processes. These discussions delved into the moral implications of delegating critical decisions to AI systems and the need for transparency, accountability, and fairness in AI-driven decision-making.

Beyond the structured sessions, participants were given the opportunity to engage in collaborative research and discussion. They were grouped with their peers, allowing for continued dialogue and deeper exploration of the topics covered. This collaborative environment fostered both individual and team-based research projects, enabling participants to further investigate the technical, legal, and philosophical challenges of AI Ethics.
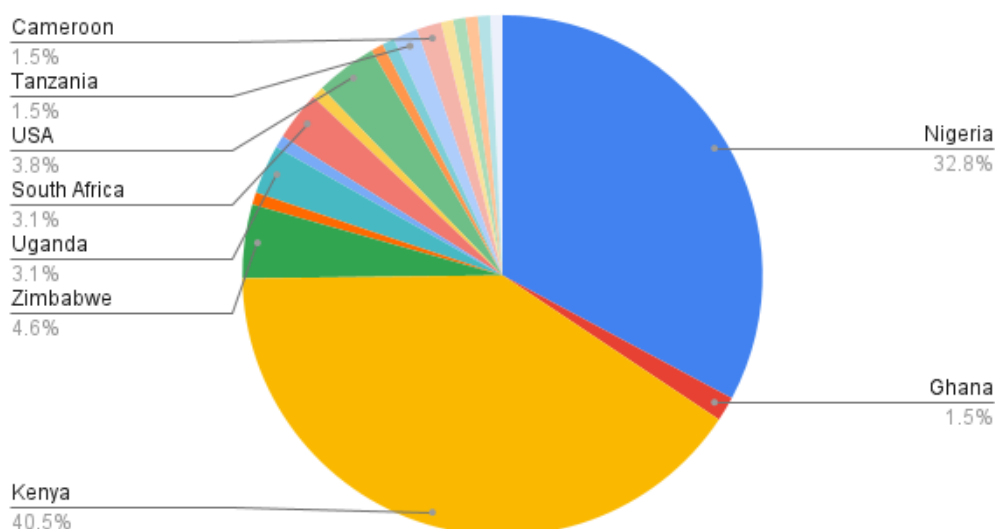
PARTICIPATION

PRE-SUMMER SCHOOL SURVEY

Two months before the summer school, we released a form for expression of interest to identify potential candidates interested in the program. This preliminary step allowed us to gauge interest, assess the background and motivations of applicants, and ensure that we could curate a diverse group of participants. The form included questions on educational background, professional experience, and areas of interest within AI ethics, enabling us to tailor the curriculum to meet the needs and expectations of the participants.

We received responses from 131 individuals representing nineteen (19) different countries. This diverse representation underscored the wide-reaching interest in the program and highlighted the importance of fostering a regional network for AI ethics. A chart illustrating the demographic distribution of the respondents is attached below.

Country Representation

Cameroon 1.5%
Tanzania 1.5%
USA 3.8%
South Africa 3.1%
Uganda 3.1%
Zimbabwe 4.6%
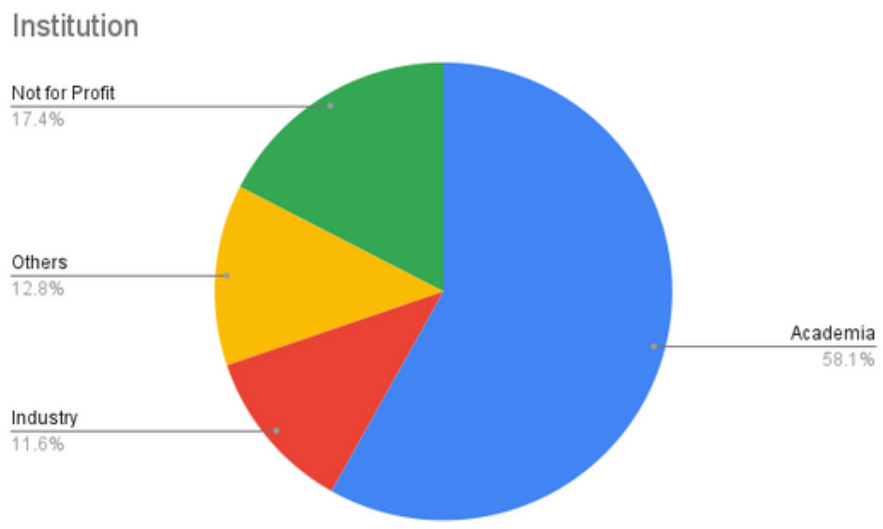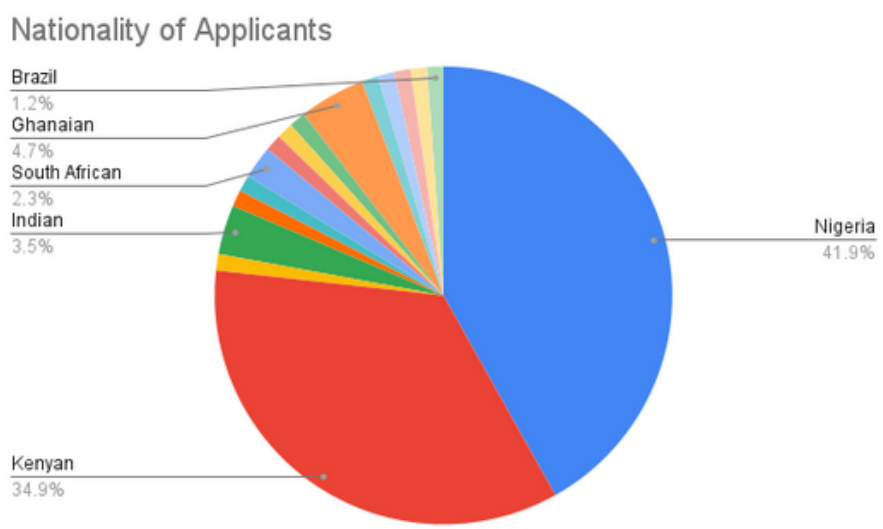Kenya 40.5%
Nigeria 32.8%
Ghana 1.5%

The countries represented includes: Nigeria, Ghana, Kenya, Zimbabwe, Belgium, Uganda, Senegal, South Africa, Lesotho, USA, Egypt, Tanzania, Cameroon, Algeria, Namibia, Ethiopia, Morocco and Malawi

Shortly after releasing the "Expression of Interest Form", we released the main call for application. We received a total of 86 responses. The chart on their demography is represented below.

SUMMER SCHOOL APPLICANT

Following the evaluation of the pre-summer school survey, the official Call for Applications was released two weeks later to invite participants to apply for the summer school. The application period remained open for a duration of two months, allowing ample time for interested individuals to submit their applications.

During this period, we received a total of 86 applications from a diverse pool of candidates spanning 16 different countries. The demographic breakdown of the applicants is illustrated in the chart below, showcasing the diverse backgrounds and geographical representation of the participants

Nationality of Applicants

Brazil
1.2%
Ghanaian
4.7%
South African
2.3%
Indian
3.5%

Nigeria
41.9%

Kenyan
34.9%

Institution

Not for Profit
17.4%

Others
12.8%

Industry
11.6%

Academia
58.1%

SELECTION PROCESS

We initially planned to admit 50 participants for the summer school, taking into consideration the available resources to ensure a high-quality and seamless learning experience for everyone. To maintain transparency and uphold the integrity of the selection process, the evaluation was conducted by a panel of external scholars from three different institutions, under the guidance of the Summer School Coordinator. This collaborative approach helped us ensure that the selection was fair, merit-based, and inclusive. The detailed selection criteria and process are outlined in the table below, illustrating how each application was rigorously assessed to select the most suitable candidates

The Essay questions asked for the application purpose included:

1. Tell us about your research experience
2. Why are you applying to the summer school?
3. Do you have any previous experience with AI Ethics? Tell us about it
4. What are you looking forward to benefiting at the Summer school.
5. What do you hope to do after completing the summer school
6. Any other thing you would want us to know about

Criteria	Percentage (%)
Professional Experience	20
Academic Background	20
Community Involvement	10
Contribution to AI Ethics	20
Skills and Competencies	20
Motivation and Purpose	10

SESSIONS & KEY OUTCOMES

AI in Cyber Security

- Understand AI-Driven Cyber Threats
- AI-Based Defense Mechanisms
- Ethical and Legal Considerations
- Practical Applications and Hands-On Training
- Collaborative Strategies and Industry Best Practices
- Risk Management and Incident Response
- Skills Development and Career Opportunities and more

AI and Healthcare

- Identify the basic concepts and technologies behind AI, particularly as they apply to healthcare.
- Describe how AI is currently being used in various healthcare settings, including diagnostics, treatment plans, and patient management.
- Analyze the benefits and challenges it presents.
- Evaluate the ethical implications of AI applications in healthcare, considering issues like privacy, consent, and accuracy.
- Demonstrate the ability to engage in informed discussions about AI in healthcare with peers, educators, and other stakeholders and more

AI and Criminal Justice

- Understand AI Applications in Criminal Justice
- Use of Surveillance and Biometric Systems in Crime detection
- Global Issues of AI in Criminal Justice
- Explore Ethical Principles and Issues
- Critical Ethical Analysis
- Legal and Regulatory Considerations
- Societal and Cultural Impact and more

AI and Data Protection

- Fundamentals of Privacy and AI
- Consent in AI Systems
- Privacy Impact Assessment (PIA)
- Data Minimization and Anonymization
- Privacy by Design in AI
- Regulatory and Compliance Issues
- Practical Session: Implementing Privacy in AI Projects

AI and Employment

- Understand the Impact of AI on Employment
- Awareness of Job Displacement Risks
- Explore Opportunities Created by AI
- Developing Strategies for Workforce Adaptation
- Evaluate Policy Responses
- Ethical Considerations and AI in Employment
- Future of Work and the Impact of AI

Algorithm Audit

- Understand the Fundamentals of AI Auditing
- Recognize Different Types of AI Audits
- Develop and Implement an AI Audit Plan
- Evaluate AI Systems for Compliance
- Analyze and Report Audit Findings
- Recommend Improvements and Remediation and more.

Policy Writing Session

- Understand the Fundamentals of Policy Writing
- Differentiate Between Types of Policies
- Develop AI-Specific Policies
- Analyze the Impact of Policies
- Incorporate Stakeholder Feedback
- Navigate Regulatory and Compliance Issues and more.

AI Risk Impact Assessment

- Understand the Concept of AI Risk.
- Analyze the potential impacts of AI risks on different stakeholders.
- Explore key frameworks and methodologies for assessing the risks of AI systems, including risk matrices, impact analysis, and scenario planning.
- Evaluate strategies for mitigating identified risks, focusing on responsible AI development practices, transparency, and robust governance structures.

AI, Misinformation and Disinformation

- Define Misinformation and Disinformation and Differentiate between misinformation and disinformation, and understand the role of AI in amplifying or combating these phenomena.
- Analyze the Impact of AI on Information Integrity.
- Identify Ethical and Societal Implications.
- Evaluate existing AI-based tools and strategies designed to detect, counteract, and reduce the spread of misinformation and disinformation.
- Develop recommendations for designing and deploying AI systems.

AI and Decision Making

- Understand the Role of AI in Decision-Making Processes: and Analyze how AI systems are used in decision-making across various sectors.
- Identify the ethical challenges associated with automated decision-making.
- Access the Impact AI Decisions on Human Autonomy.
- Develop and propose guidelines for designing AI systems that promote responsible and ethical decision-making.

Introduction to AI Ethics

- Understand Core Ethical Principles (UNESCO & OECD Framework)
- Explore Ethical Dilemmas in AI.
- Recognize the Importance of Ethical AI.
- Examine real-world scenarios where AI ethics has been a concern, and evaluate the effectiveness of implemented solutions.
- Establish an Ethical Framework and more.

Python Technical Session

- Understand Python Basics and Syntax.
- Utilize Key Libraries for AI Development.
- Implement Core AI Concepts.
- Develop Simple AI Models.
- Debug and Optimize Python Code.

SPONSORSHIP AND PARTNERSHIP

ABOUT

✳ Thomas Adewumi University (TAU), located in Oko, Kwara State, Nigeria, is a prestigious private university officially licensed by the Federal Government of Nigeria in April 2021. As an independent institution, TAU prides itself on being non-governmental, non-partisan, and non-sectarian, providing a neutral and inclusive environment for academic excellence. Url: https://www.tau.edu.ng

✳ SPONSORSHIP RECIEVED

Thomas Adewumi University provided generous support for the summer school by granting access to the university's licensed video conferencing software, media partnership for visibility of the summer school, offering the use of their institutional email for official communications, and facilitating the receipt of donor contributions through their bank account. This invaluable support enabled smooth coordination and seamless execution of the program, ensuring an efficient and professional experience for all participants.

✳ ABOUT

Ubuntu AI is an Artificial Intelligence and Data Science in Zambia. The community's primary goal is to create a collaborative platform where enthusiasts, researchers, and professionals can come together to discuss emerging trends, share knowledge, and contribute to the growth of the AI and Data Science ecosystem in Zambia.

✳ SPONSORSHIP RECIEVED

The Ubuntu AI Community supported the summer school through a strategic media partnership, enhancing the visibility and reach of the program. Their contributions included promoting the event on various social media platforms, sharing updates, and helping to attract a diverse pool of participants from Zambia.

FUTURE PLANS

The AI Ethics Summer School 2024 marks the inaugural edition of the AI Ethics Summer School organized by the Pan-Africa Center for AI Ethics. This pioneering event is the first of what is intended to be an annual tradition, dedicated to advancing the understanding and application of AI Ethics across the continent. Our mission is to address and bridge the significant skills gap in AI Ethics that exist within Africa, empowering professionals, academics, and enthusiasts with the knowledge and tools they need to engage ethically with AI technologies.

As we reflect on the success of this first edition, we are already laying the groundwork for the 2025 Summer School, with a commitment to delivering an even more seamless and enriching experience for our participants. We are actively exploring ways to expand the program, aiming to enhance the depth and breadth of the curriculum while also broadening our reach to a larger audience.

CHALLENGES AND LESSONS LEARNT

- We did not receive any external monetary funding to support the operations of the summer school. As a result, it was challenging to offer stipends for participants and facilitators or provide any form of financial assistance throughout the program
- We faced a shortage of human resources, which slowed down many of our activities. Consequently, we had to rely heavily on volunteers and adapt to their availability and schedules to ensure the smooth running of the program

Our aspirations for the 2025 edition include the possibility of hosting the event in person, contingent on the availability of sufficient funding. An in-person format would offer a platform for more interactive and collaborative learning experiences, enabling participants to engage directly with experts and peers in a stimulating environment. By potentially shifting to an in-person format, we hope to foster deeper connections, facilitate hands-on workshops, and create a more immersive learning atmosphere.

We are excited about the future of the AI Ethics Summer School and are fully committed to making the 2025 edition bigger and better. Our ongoing efforts are focused on ensuring that each successive year of the Summer School builds on the achievements of the previous ones, continually improving the experience for all participants. We look forward to welcoming a new cohort of learners and experts in 2025, as we continue to champion the development of AI Ethics expertise across Africa, ensuring that the continent remains at the forefront of ethical AI innovation.

We are open to sponsorship, partnership and funding. If you wish to contribute to this great work, please write to Rethabile Tsephe, the Programs Manager with this email *(r.tsephe@pacfaie.org)* We are happy to continue the conversation.

APPENDICES

Reviewers	Institution
Adenike Odegbile	Bowen University
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Faith Obafemi	Queen's University Belfast
Rethabile Tsephe (Lead)	PACFAIE
Facilitators	Institution
Kingsley Owadara	PACFAIE
Susan Otieno	Independent Researcher
Damilola Gbadamosi	GoMyCode
Damilola Awotula	McGill University
Rethabile Tsephe	PACFAIE
Demola Scott	PACFAIE
Adeboye Adegoke	Paradigm Initiative
Karthik Mahalingam	Amazon
Jeffrey Recker	BablAI
Newman Haruna	Nheon Technologies
Research Assistants	Institution
Bibitayo Ojo	DataPro Limited
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Valarie Waswa	She Goes Digital, Kenya
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Volunteers	Institution
Sylvester Agose	Independent
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CORE TEAM

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YOU WISH TO PARTNER/ SPONSOR 2025 AI ETHICS SUMMER SCHOOL?

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