



INDABAX UGANDA CONFERENCE 2024

Theme: *"Ethical AI horizons: Navigating the Impact and Future of AI across diverse sectors."*



Monday, 29 July - Friday, 2nd August 2024



Silver Springs Hotel, Bugolobi (last 2 days)

DAY 1 – MONDAY 29TH JULY, 2024 (ONLINE)

Tutorials & Practicals: Introduction to AI & Machine Learning

09:00 – 10:30

Python Fundamentals for Data Science ~ **Rose Bunmi Akinremi**

10:30 – 11:15

COFFEE BREAK

11:20 – 12:00

Introduction to Machine Learning: Basics, types of machine learning (supervised, unsupervised, reinforcement learning), and key concepts.
~ **Isaac Mukonyezi**

12:00 – 12:45

Anomaly Detection Using Isolation Forest
~ **Claire Babirye**

12:45 – 14:00

LUNCH BREAK & NETWORKING

14:00 PM – 14:45

Reinforcement Learning: Basics, Q-learning, policy gradients, and applications.
~ **Geraud Nangue Tasse**

14:45 – 15:30

Computer Vision: Image preprocessing, convolutional neural networks, object detection, and image generation. ~ **Tusubira Jeremy**

15:30 – 16:00

COFFE BREAK

16:00 – 16:45

Virtual Expert Roundtable and closing remarks
Practical applications of AI

17:30 – 19:00

CLOSE DAY 1

DAY 2 – TUESDAY 30TH JULY, 2024 (ONLINE)

Tutorials & Practicals: Advanced Concepts in ML

09:00 – 09:45

Machine Learning Frameworks: TensorFlow, PyTorch, sci-kit-learn, and Keras OR Big Data and ML: Handling large datasets with tools like Apache Spark, Hadoop, and distributed machine learning ~
Kakooza Azizi

09:45 – 10:30

Building End-to-End ML Pipelines: From data collection to model deployment. ~ **Nsubuga Hassan**

10:30 – 11:15

COFFEE BREAK

11:15 – 12:45

AI Conversations: The Synergy of NLP and Speech Processing. ~
Jonathan Mukiibi

12:45 – 14:00

LUNCH BREAK & NETWORKING

14:00 – 14:45

Deep Learning model for Retinopathy of prematurity stage 3 disease diagnosis.~ **Elizabeth B Mutua**

14:45 – 15:30

Model Interpretability and Explainability: Techniques and tools to understand and explain model predictions.~ **Chinasa T. Okolo**

15:30 – 16:00

COFFE BREAK

16:00 – 16:30

Virtual Wrap-Up and Open Floor for Participant Feedback

16:30 – 17:00

CLOSE DAY 2

DAY 3 – WEDNESDAY 31ST JULY, 2024 (ONLINE)

HACKATHON DAY

Morning Session: Sunbird AI Showcase

9:00 PM - 12:00 PM

- Introduction to Sunbird AI products (Translate, Speech, API)
 - Live demonstrations and interactive sessions
 - "Break the system" challenge: Participants test the limits of Sunbird AI
 - User satisfaction assessment and feedback gathering
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12:00 PM - 2:00 PM

BREAK

Afternoon Session: Gender and AI Panel

2:00 PM - 3:00 PM

- "The Role of Inclusivity in Language Model Creation: Highlighting the importance of representing diverse voices and perspectives in building language models"
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DAY 4 – THURSDAY 1ST AUGUST, 2024 (PHYSICAL)

Parallel sessions: Ecology & Astro-physics

TIME	ECOLOGY & AI	ASTROPHYSICS & AI
9:00 - 09:45	Opportunities for Machine Learning and AI in animal behaviour, conservation, and management ~ Andrew King, University of Swansea, UK	Astronomy: The Past, Present, and Future & How AI Can Help ~ Abigail Frost
09:45 - 10:30	Pixels to Preservation: Leveraging AI for Low-Cost Camera Trap Technology. ~ Lorna Kawira Mugambi, Dedan Kimathi University of Technology, Kenya	Machine Learning Classifications for Astronomical Radio Surveys. ~ Kushatha Ntwaetsile
10:30 - 11:00	COFFEE BREAK	
11:00 - 11:45	Impact of background on the classification of Camera Trap Images. ~ Yuri Njathi, Dedan Kimathi University of Technology, Kenya	Mapping Billions of Stars with GAIA and Other Space Telescopes. ~ Miguel Vioque
11:45 - 12:30	Probing the limits of human understanding on the behavior of <i>Caenorhabditis elegans</i> . ~ Alfonso Perez-Escudero, Paul Sabatier University Toulouse, France	Big Data Challenges in Millimetre Interferometry ~ James Miley
12:30 - 14:00	LUNCH	
14:00 - 14:45	Wildlife Ecology in Africa: are ML and AI Maslow's Hammer? ~ Mark Keith, University of Pretoria, South Africa	- The Development in Africa with Radio Astronomy (DARA) Project: Overview and Experiences ~ Kushatha Ntwaetsile & Boitumelo Gaolape
14:45 - 15:45	AI in Agriculture. ~ Neema Mduma, Nelson Mandela African Institution of Science and Technology, Tanzania	Hands On Workshop with Astronomical Data 1 ~ Miguel Vioque
15:45 - 16:15	COFFEE BREAK	
16:15 - 17:15	Open Q&A Session/Mentorship Session	Hands On Workshop with Astronomical Data 2 ~ James Miley
17:15- ONWARDS	DEPARTURE	

DAY 5 – FRIDAY 2ND AUGUST, 2024 (PHYSICAL)

Conference Day

8:00AM – 8:30AM

Arrival and Registration ~ All

8:30 AM – 8:45 AM

Welcome note and Opening Remarks: Organising Committee

8:45 AM – 9:25 AM

Keynote speaker: The Cutting Edge of AI: What's New and What's Next.

9:25 AM - 10:00 AM

Invited talk: Artificial Intelligence in Ecology.

10:00 AM - 10:30 AM

**GROUP PHOTO/ COFFEE BREAK/
EXHIBITIONS**

10:30 AM - 11:20 AM

Spotlight talks: Group 1 IndabaX AI Club Kabale University ~
Presentations from 5 selected students

11:20 AM - 12:00 PM

Invited talk: Regulatory and Policy Frameworks for Ethical AI.

12:00 PM - 1:00PM

Pannel session 1: The role of AI in climate change, Agriculture,
Financial services, Ecology

1:00 PM – 2:00 PM

LUNCH BREAK & NETWORKING

2:00 PM - 2:40 PM

Invited talk: Responsible and Ethical AI

2:40 PM - 3:10 PM

Spotlight talks: Group 2 (IndabaX Makerere University club)~
(3 selected students)

3:10 PM - 4:10 PM

Pannel session 2: AI and Healthcare: Ethical Implications and
Innovations check

4:10 PM - 4: 20 PM

DL IndabaX Uganda clubs: The Journey

15:30 – 16:00

COFFE BREAK

P.T.O

4:20 PM - 4:30 PM

Translation Challenge on Sunbird Translate : Announcing and Awarding the winning person - **Organizing committee**

4:30 PM- 8:30 PM

Data Science Africa Uganda (DSAU) Meet-up

Highlights of the evening.

- Welcome and Introductions: Brief overview of Data Science Africa Uganda (DSAU) and its mission~ **Dr. Martin Mubangizi**
- Introducing Sunbird AI to DSAU community~ **Dr. Ernest Mwebaze**
- "Importance of Data in Relation to Uganda's Just Concluded Population Census". Discussion on Uganda's Population Census~ **UBOS representative**
- Building the DSAU Ecosystem-Open floor for questions and discussions from attendees.
- Networking and Closing Remarks: Opportunity for attendees to connect and exchange ideas.

8:30PM - ONWARDS

DEPARTURE

THE END

