

Deep Learning Indaba X South Africa 2025

STELLENBOSCH, SOUTH AFRICA

7-11 JULY 2025

The Deep Learning IndabaX SA is the annual meeting of the South African machine Learning and AI community.

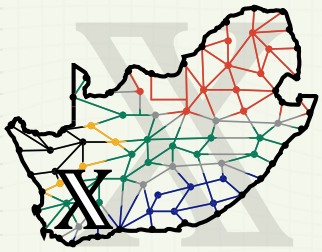
IndabaX, a branch of the pan-African movement *Deep Learning Indaba*, plays a pivotal role in expanding the **reach** and **impact** of **machine learning knowledge across Africa.**

- **Spread scientific knowledge amongst researchers**
- **Showcase cutting-edge applications from industry partners**
- **Provide a practical introduction to deep learning for beginners**
- **Build a community of responsible AI practitioners**

- PROGRAMME ELEMENT
- WORKSHOP
- DISCUSSION
- KEYNOTE
- EVENT
- FUNDAMENTALS
- STREAM 1
- STREAM 2
- HACKATHON

DAY 1
MONDAY
7 JULY '25

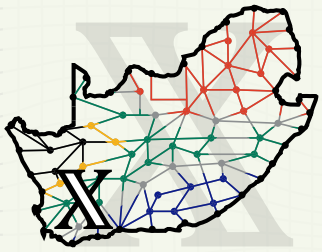
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08:00	**Registration** Continues throughout the day, and during each morning coffee *Civil Engineering Entrance Hall*			
08:30				
09:00		**Soft Skill Monday Workshop: Maths for ML** A friendly Introduction to the Mathematical Basics for Machine Learning *Labs: M2002*	**Soft Skill Monday Workshop: Africa Comm (PhD level communication)** Building Science Communication Capacity in Africa *S1018*	**Soft Skill Monday Workshop: Scientific Communication** Beyond the Poster: Practical Presentation Skills for Researchers *E1025*
09:30				
10:00				
10:30				
11:00	**Debate** *S1018*			
11:30	**Lunch**			
12:00				
12:30	**Opening Address** *S1018*			
13:00	**Keynote** Stuart Reid: The Unsung AI Scaling Law *S1018*			
13:30				
14:00	**Welcoming - AI Fest with Nosible** *S1018*			
14:30	**Group Photo** *Civil Engineering (outside)*			
15:00	**Student Poster Session** *Engineering Building Skywalk (3rd and 4th floors)*			
15:30				
16:00				
16:30	**Music, Welcome Drinks** *Civil Engineering Entrance Hall*			
17:00	**Exhibition Booth Session** *Civil Engineering Entrance Hall*			
17:30				
18:00				
18:30	**Movie night: AlphaGo** *Pulp Cinema, Neelsie*			
to late				

DAY 2
TUESDAY
8 JULY '25

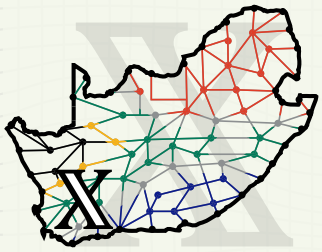
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08:00	**Morning coffee (late registration 8am - 8:30am)**		*Civil Engineering Entrance Hall*
08:30			
09:00	**Keynote** Prof. Pius Owolawi: Edge AI for Agriculture - Towards a Cognitive Farming		*S1018*
09:30			
10:00	**Break (Speaker Intros start at 10:25am)**		
10:30	**Foundations of Machine Learning** Prof. Mandla Gwetu *S1018*	**[Security] David de Villiers** Overlooked and Undersecured: Prompt Injection Attacks on LLM Applications	**[Ethics] Zara Schroeder** Unconsented: The Gendered Cost of Generative AI in the Digital Age
11:00		**[Probabilistic models] Shane Josias** Multimodal base distributions in conditional flow matching generative models	**[Ethics] Stephen Middleton** The Patent Landscape for Inventions relating to Artificial Intelligence
11:30		**[CV] Alaa Aldein Mohamed Suliman Ibrahim** Transfer learning-based approach using new convolutional neural network classifier for steel surface defects classification *E1025*	**[Blockchain] Dr. Sebonkile Thaba** From Supply Chains to Smart Solutions: Empowering Non-Technical Students with Blockchain Innovation *S2002*
12:00	**Debate** *S1018*		
12:30	**Lunch**		
13:00			
13:30	**Keynote** Prof Marlene Holmner: Ethics in the Age of AI: Balancing Privacy, Accuracy, and Access *S1018*		
14:00			
14:30	**Break (coffee only) (Speaker Intros start at 14:55am)**		
15:00	**Foundations of Natural Language Processing** Dr. Joan Byamugisha: Evolution of NLP Methods, and their Fit-for-purpose *S1018*	**[Algorithms] Bigomokero Antoine Bagula** Artificial Learning: From Federated Learning to Diversity Learning	**[NLP] Francois Meyer** Improving Text Generation for Low-Resource South African Languages
15:30		**[Applications] Francois Naude** Augmentation and Training Strategies for Improved Phase Arrival Picking in Microseismic Monitoring	**[NLP] Stefan Strydom** Pocket Polyglot Mzansi: Machine Translation for Local Languages on the Edge
16:00		**[Algorithms] Ahmed Mohammed Ahmed** Grokking in neural networks and the role of regularisation **[Prob. Models] Jimoh Saheed Tunji** Evaluation of Wind Speed Regime Variability and Model Fit Performance Using Multi-Component Weibull Mixture Functions for Energy Potential Estimation *E1025*	*S2002*
16:30	**Break & Snacks (Speaker Intros start at 16:55am)**		
17:00	**Flash Talks** *S1018*	**[Zindi] Amy Bray** Competitive Machine Learning to Improving your CV	**Hackathon Practical With the Institute of Mine Seismology (5:00pm - 8pm)** Whether you're just starting out or already have experience, join us for an exciting hands-on session where we tackle a real-world challenge straight from the mining industry. *Labs: M2002, M3002*
17:30			
18:00	**Break**		
18:30 to late	**Movie night: The Creator** *Pulp Cinema, Neelsie*		

DAY 3
WEDNESDAY 9 JULY '25

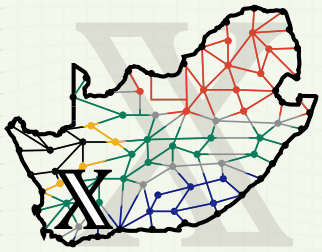
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08:00	**Morning coffee (late registration 8am - 8:30am)**			
08:30				
09:00	**Keynote** Dr. Axel Tideman: Machine Learning at Takealot *S1018*			
09:30				
10:00	**Break (Speaker Intros start at 10:25am)**			
10:30	**Foundations of MLIP** Jeroen Van Goey: Machine Learning Interatomic Potentials (MLIP) *S1018*	**[MLOps] Stefan Dominicus** Recommender Systems at Takealot.com	**Naweed Khan** The state of AI	**Workshop** Eyes in the sky: Applied Deep Learning with MATLAB and Minidrones - Optinum Solutions *Labs: M2002*
11:00		**[MLOps] Jason Max Chalom** Building out a sustainable and production ready AI software solution	**[Compute] Luke Taylor** Why AI is Power-Hungry - Lessons from the Brain and How We Can Fix It	
11:30		**[RL] Samuel Oladejo** ForecastRL: Neural Time Series Forecasting Integration with Risk-Aware Deep Reinforcement Learning for Financial Trading *E1025*	**[KRR] Dr. Gavin Rens** Symbolic Methods in Artificial Intelligence and Machine Learning *S2002*	
12:00	**Debate: "**I, Human Autonomy, and Power" by Dr Hossein Masoumi Karakani *S1018*			
12:30	**Lunch**			
13:00				
13:30	**Workshop** Recommender Systems Workshop - Takealot *S1018*	**Workshop** AI Safety - AI Safety Cape Town *E1025*	**Workshop** IBM Skills Build *Labs: M3002*	**Workshop** Eyes in the sky: Applied Deep Learning with MATLAB and Minidrones - Optinum Solutions *Labs: M2002*
14:00				
14:30	**Break (coffee only) (Speaker Intros start at 14:55am)**			
15:00	**Workshop** Recommender Systems Workshop - Takealot *S1018*	**Workshop** AI Safety - AI Safety Cape Town *E1025*	**Workshop** IBM Skills Build *Labs: M3002*	**Workshop** Eyes in the sky: Applied Deep Learning with MATLAB and Minidrones - Optinum Solutions *Labs: M2002*
15:30				
16:00				
16:30	**Break & Snacks (Speaker Intros start at 16:55am)**			
17:00	**Flash Talks** *S1018*		**Radixtrie Hackathon (5:00pm - Midnight)** Ever been curious to apply ML algorithms to Databases? Now is your chance! Take part in this challenge and win. *Labs: M2002*	**Instadeep Hackathon (5:00pm - Midnight)** Join us for a formal hackathon session with Instadeep focusing on ML for Interatomic Potentials (MLIP). Get an introduction to the field and prepare for the hackathon challenge ahead. Join us to win some cool prizes! *Labs: M3002*
17:30				
18:00	**Break**			
18:30	**Movie night** *Pulp Cinema, Neelsie*			
to late				

DAY 4
THURSDAY
10 JULY '25

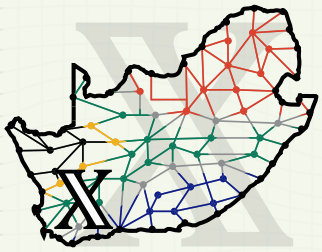
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08:00	**Morning coffee (late registration 8am - 8:30am)**		
08:30			
09:00	**Keynote** Prof. Francesco Petruccione: Quantum Foundations - From Qubits to Intelligent Algorithms *S1018*		
09:30			
10:00	**Break (Speaker Intros start at 10:25am)**		
10:30	**Foundations of Data Literacy** Dr Hossein Masoumi Karakani: Data Culture Rising - Literacy for the Next Generation *S1018*	**Workshop** Quantum Machine Learning 4 Africa - IBM Research Africa *Labs: M2002*	**Workshop** Building AI Agentic Workflows from Scratch: A Hands-On Tutorial on RAG, Text2SQL & Tools *Labs: M3002*
11:00			
11:30			
12:00	**Lunch**		
12:30			
13:00	**[Compute] Werner Janse van Rensburg** Introduction to NICIS: Your Compute (CHPC), Data (DIRISA) and Network (SANReN) Infrastructure Services Partner	**Workshop** Quantum Machine Learning 4 Africa - IBM Research Africa *Labs: M2002*	**Workshop** Building AI Agentic Workflows from Scratch: A Hands-On Tutorial on RAG, Text2SQL & Tools *Labs: M3002*
13:30	**[NLP] Avi Moodley** NLP Solutions for Practical Industry Use Cases *S1018*		
14:00	**Break (coffee only) (Speaker Intros start at 14:25am)**		
14:30	**[Ethics] Karen Ann Walstra** AI School Policies: An Urgent Need **[Ethics] Gabriela Penelopé Carolus** Ground Truth: Blending Clinical Evidence and Unstructured Deep Learning for a Culturally Responsive AI Health Innovation	**Workshop** Quantum Machine Learning 4 Africa - IBM Research Africa *Labs: M2002*	**Workshop** Building AI Agentic Workflows from Scratch: A Hands-On Tutorial on RAG, Text2SQL & Tools *Labs: M3002*
15:00	**[Health] Craig Parker** Beyond Weather Warnings: Machine Learning Reveals the Hidden Biology of Climate Health Vulnerability **[Applications] Dylan Geldenhuys** Building a Digital Twin for Telco: Optimizing Customer Satisfaction with Causal ML - Simulating interventions, predicting customer impact, and guiding network decisions at scale *S1018*		
15:30	**Break & Snacks (Speaker Intros start at 15:55am)**		
16:00	**Panel Discussion: 70 years of AI** *S1018*		
16:30			
17:00	**Prize Giving and Closing Ceremony** *S1018*		
17:30	**Travel**		
18:00	**Closing Event** *Dorp, Stellensbosch*		
18:30			
to late			

DAY 5
FRIDAY
11 JULY '25

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South Africa 2025



REFLECT, REFINE, AND RELAX @ NEELSIE CAFETERIA

We've come to the final day of the IndabaX. After a packed week of learning, sharing, and building community, take time to slow down, wrap up, and enjoy Stellenbosch with new friends before heading home.

08:00		
08:30		
09:00	**Informal Focus Group & Week Wrap-Up** We never get enough time to chat! Grab a coffee and come chat with the team. We'd love to hear how the week went for you! What worked, what could be better, and what you're taking home. It's informal and open to all.	
09:30	**CV Clinics & Soft Skills Wrap-up** One-on-one time with organisers and IBM mentors. If you've been working on a CV, project pitch, or presentation, now's your chance to get final input before you leave.	**"Walk & Wonder" Stellenbosch Tour** Stretch your legs and enjoy the area. Choose from a short scenic hike, a visit to the botanical gardens, or a relaxed museum trip. Perfect if you've got some time before travelling.
10:00		
10:30		
11:00	**Explore Stellenbosch** Use the rest of the day to explore with new friends. The Neelsie and town centre are great for lunch, gift shopping, or grabbing a last coffee. If you're around a bit longer, the nearby vineyards are easy to reach and make for a chilled afternoon.	
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