



Contribution ID: 320

Type: Talk

From Idea to Impact: Scalable AI Workflows with MATLAB & HPC - Bridging AI Challenges with Scalable, Reliable, and Explainable Solutions

Tuesday, 2 December 2025 14:30 (20 minutes)

In an age where AI is permeating every field of engineering and science, it is essential for researchers to quickly embrace technologies that can drive breakthroughs and accelerate innovation. Tools like MATLAB are specifically designed to lower the barriers to entry into the world of AI, making advanced capabilities more accessible to engineers and scientists.

Integrating truly AI-enabled systems into real-world applications presents significant challenges – data fragmentation, legacy system integration, and scaling advanced computations are common hurdles. This talk presents practical approaches to overcoming these obstacles, emphasizing how high-performance computing with MATLAB and Simulink can accelerate AI model development and deployment. After a quick introduction on how to access and use MATLAB at your university or institute, the session will focus on effective strategies and best practices for leveraging HPC capabilities such as parallelization and workflow optimization to achieve faster prototyping and scalable AI solutions.

The availability of MATLAB on the CHPC cluster through your university or institute license ensures that the presented workflows are accessible and reproducible for researchers across the Southern Africa region. The Academia Teams at MathWorks and Opti-Num Solutions (local partner company) are here to support your research by helping you quickly adopt AI and scale your work with parallel computing.

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Student or Postdoc?

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Registered for the conference?

No

CHPC User

CHPC Research Programme

Workshop Duration

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Session Classification: HPC Applications

Track Classification: Machine Learning and other AI techniques