Contribution ID: **140**   Type: **Invited Talk**

Recent AI projects for neutron data analysis and automation at SNS

The field of Artificial Intelligence (AI) is experiencing a period of rapid growth, bringing transformative changes to many scientific domains. This presentation will provide a brief overview of the evolution of AI, highlighting key milestones and their relevance to neutron scattering. We will review the progression of our work, from early applications of neural networks to more recent developments using transformers for data analysis in techniques like reflectometry, SANS, and diffraction. We will then discuss our current focus on agentic AI and the development of automated workflows to enable on-the-fly experiment steering and more efficient data interpretation.

Topical Area

AI and data science

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