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Towards to continual machine learning for your ever changing accelerator (K. Rajput, JLAB)

Tuesday 9 September 2025 09:30 (30 minutes)

This talk covers our work on errant beam prognostics at the Spallation Neutron Source (SNS), focusing on the end-to-end process from data collection to the development and deployment of predictive models in specific. A short overview of AIML work done for accelerators and current trends will be presented. We will walk through key steps involved in creating robust Machine Learning (ML) models, including model training, validation, and deployment in an operational setting. In addition to presenting our technical approach, we will share valuable lessons learned, emphasizing the importance of infrastructure to support the continuous adaptation of models to evolving data and system behaviors. This talk will provide insights into the challenges and solutions involved in applying ML to real-world operational environments, with a particular focus on managing data drift and changes in accelerator setup while ensuring model resilience over time.

Footnotes

Funding Agency

I have read and accept the Conference Policies

Yes

Author: RAJPUT, Kishansingh (Thomas Jefferson National Accelerator Facility)

Presenter: RAJPUT, Kishansingh (Thomas Jefferson National Accelerator Facility)

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