

Machine diagnostics with ML and python at SOLARIS

Wednesday 12 February 2025 14:45 (2h 15m)

The integration of machine learning (ML) into control systems is a key point of interest in the field of accelerator operation. We will present the application of ML in accelerator operations at the SOLARIS synchrotron. We tested ML interfaces based on TensorFlow, XGBoost and pyTorch utilizing multicore and GPU for computation speed up. At the current stage we focus on several areas of machine control: automatic anomaly detection by transverse beam profile analysis, machine learning-based insertion devices correction tables generation and beam position FFT window classification. We will show live demos of our ML based systems currently deployed at our synchrotron.

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Session Classification: Show & tell

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