

# Scalable Machine Learning with Kubeflow at CERN

*Tuesday, November 1, 2022 11:45 AM (25 minutes)*

Machine learning (ML) has been shown to be an excellent method for improving performance in high-energy physics (HEP). Applications of ML in HEP are expanding, ranging from jet tagging with graph neural networks to fast simulations with 3DGANs and numerous classification algorithms in beam measurements. ML algorithms are expected to improve in performance as more data are collected during Run 3 and the high luminosity upgrade.

Computing infrastructure is required to support this new paradigm by providing a scalable ML platform for a myriad of users with existing and future use cases. In this talk, we present a general-purpose Kubeflow-based machine learning platform deployed at CERN. We present the platform features such as pipelines, hyperparameter optimization, distributed training, and model serving. We discuss infrastructure details, and the integration of accelerators and external resources. We discuss the existing use cases for the platform, along with a demonstration of the core functionalities.

## Desired slot length

## Speaker release

Yes

## Presentation will be held...

remotely

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**Session Classification:** Computing and Batch Services

**Track Classification:** Computing & Batch Services