Contribution ID: **124** Type: **not specified**

SBND Analysis using ML Reconstruction Chain

Monday, 8 July 2024 16:30 (15 minutes)

As part of the Short Baseline Neutrino (SBN) Program at Fermilab, the Short Baseline Near Detector (SBND) is positioned in the Booster Neutrino Beam (BNB) and explores neutrino-argon interactions with unprecedented statistics. SBND is a Liquid Argon Time Projection Chamber (LArTPC). Electrons produced through ionization drift toward three wire planes, providing signals that form 2D images of particle trajectories. I introduce the Scalable Particle Imaging using Neural Embeddings (SPINE) framework, which employs a Machine Learning (ML)-based 3D reconstruction using a series of neural networks. Here, we present SPINE's reconstruction chain, analysis approaches, and results from our latest simulation samples.

Primary author: FAN, Castaly (University of Florida)

Presenter: FAN, Castaly (University of Florida)

Session Classification: Computational II