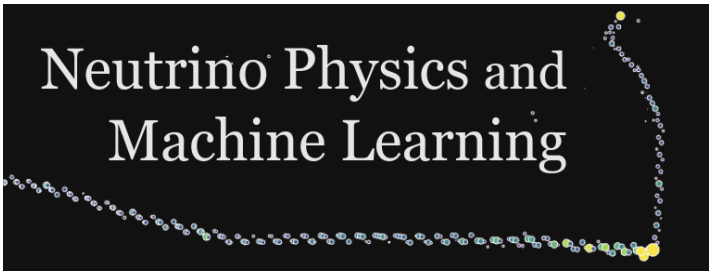

Contribution ID: **8** Type: **A collaboration/project summary talk**

Machine learning techniques in ANNIE

Wednesday, 22 July 2020 13:00 (40 minutes)

The Accelerator Neutrino Neutron Interaction Experiment (ANNIE) is a 26-ton Gd-doped water Cherenkov detector installed in the Booster Neutrino Beam (BNB) at Fermilab. The experiment aims to make a unique measurement of neutron yield from neutrino-nucleus interactions and to perform R&D for the next generation of water-based neutrino detectors. To realise these goals the ANNIE collaboration has developed several reconstruction techniques. Boosted DecisionTrees and Deep Learning are used to reconstruct the muon and neutrino energy and Neural Networks and CNNs are used for particle identification and ring counting. In this talk, we discuss the machine learning-based techniques used in the ANNIE experiment.

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Session Classification: Day 4 Afternoon