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Investigating new neural network methods for the NOvA experiment

Thursday 3 October 2019 10:30 (15 minutes)

The NOvA neutrino detector experiment is one of the first High Energy Physics experiments to use neural networks (specifically convolutional neural networks, or CNNs) extensively for its analysis. Results have been published using CNNs to categorize events based on the interaction type, and work is being done to use CNNs to reconstruct other event properties and kinematics. We will present an investigation into new methods that may assist the standard NOvA CNN in categorizing events, or that may reduce the network size and training time, allowing for better optimization of network hyperparameters, and thereby improving performance.

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