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Recent Advancements in Machine Learning Techniques Utilised in NOvA

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The NOvA experiment uses the ~1 MW NuMI beam from Fermilab to study neutrino oscillations over a long distance. The experiment is focused on measuring electron neutrino appearance and muon neutrino disappearance at its Far detector situated in Ash River, Minnesota. NOvA was the first experiment in High Energy Physics to apply convolutional neural networks to the classification of neutrino interactions and the composite particles in a physics measurement. Currently, NOvA is crafting new deep-learning techniques to improve interpretability, robustness, and performance for future physics analyses. This poster will cover the advancements in deep-learning-based reconstruction methods being utilised in NOvA.

Poster prize

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