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Transformer Networks for NOvA Event Classification

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The NOvA experiment uses a convolutional neural network (CNN) that analyzes topological features to determine neutrino flavor. Alternative approaches to flavor identification using machine learning are being investigated with the goal of developing a network trained with both event-level and particle-level images in addition to reconstructed physical variables while maintaining the performance of the CNN. Such a network could be used to analyze the individual prediction importances of these inputs. An original network that uses a combination of transformer and MobileNet CNN blocks will be discussed.

Are you are a member of the APS Division of Particles and Fields?

No

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