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Deep Learning to study neutrino interactions

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High Energy Physics is a pioneer in the usage of deep learning applied to image analysis. Several particle physics experiments around the world are developing novel techniques to classify events and identify particles via deep learning algorithms applied to their event images. Neutrino experiments such as NOvA and DUNE are at the front edge of the field, with results that used deep learning to improve their event reconstruction and particle identification capabilities. With better event classification and particle identification techniques, the field of neutrino interactions advances in the search for lower systematic uncertainties that allow refined experimental results to defy the current theoretical models describing neutrino-nucleus interaction. This presentation summarizes the latests neutrino interaction results and the deep learning techniques used in its achievement.

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