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Exploring Hybrid Deep Learning Architecture for Experimental HEP Data Analysis

Deep learning has shown a promising future in physics'data analysis and is anticipated to revolutionize LHC discoveries.
Designing an optimal algorithm may seem to be the most challenging task in machine learning progress especially in HEP due to the high dimensionality and extreme complexity of the data.
Physical knowledge can be employed in designing and modifying of the algorithm's modules as well as constructing high-level features, however, few researchers suggested that it may be sup-optimal (especially latter case).
Hybrid architectures aims to achieve a complicated target based on fusion of different modules such as Convolutional Neural Network. This topic has been exploited in several computer vision researches, consequently, it can also be considered for Jet physics.
Hybrid Deep Learning Architecture concerned with taking full advantage of expertise on the particular environment of the task.

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