

# Recursive neural tensor networks for jet classification

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The prospect of using AI to utilise a greater fraction of the data available from colliders is very alluring, particularly for events with limited statistics, such as Higgs decays. On the topic of jet identification there are no shortage of attempts at such, however, the ‘no free lunch’ theorem is very central to use of AI. Because of their boosted geometry, heavy Higgs decays can provide a particularly interesting playground for a number of tools. General techniques may solve many problems, but they will suffer more from noise and tendency to overfit. A technique with the right geometry for the problem will have a hypothesis space that better matches the correct solution. I will discuss the use of Recursive Neural Tensor Networks for jet classification or tagging, as these networks are an excellent match for the shape of the problem.

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