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Connecting the Dots - Track reconstruction in the era of Data Science

Friday 5 January 2018 16:15 (45 minutes)

The reconstruction of trajectories from charged particles in the ATLAS Inner Detector is the most single CPU intensive part of the event reconstruction. The currently implemented combinatorial approach with track following will suffer strongly from the increasing event complexity foreseen with the future high luminosity programs in high energy physics. On the other hand, machine learning (ML) is a rapidly growing sector in academics and industry, which has large potential overlap and opportunities for application in track reconstruction. One such attempts to foster external expertise for high luminosity track reconstruction is the upcoming track reconstruction machine learning challenge, a follow-up initiative of the ATLAST Higgs machine learning challenge hosted by kaggle.

Summary

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