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Particle Cloud Generation

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Particle Cloud Generation

There has been significant development recently in generative models for accelerating LHC simulations. Work on simulating jets has primarily used image-based representations, which tend to be sparse and of limited resolution. We advocate for the more natural 'particle cloud'representation of jets, i.e. as a set of particles in momentum space, and discuss evaluation metrics for the generation of such data. We then introduce our new graph network and attention-based generative models, which have excellent qualitative and quantitative performance in generating sparse jets.

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