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Jet Images with Deep Learning

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Building on the jet-image based representation of high energy jets, we develop computer vision based techniques for jet-tagging through the use of Deep Neural Networks. Jet-images enabled the connection between jet substructure and tagging with the fields of computer vision and image processing. We show how applying such techniques using Deep Neural Networks can improve the performance to identify highly boosted W bosons with respect to state-of-the-art substructure methods. In addition, we explore new ways to extract and visualize the discriminating features of different classes of jets, adding a new capability to understand the physics within jets and to design more powerful jet tagging methods.

Summary

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