

Machine learning for complete intersection Calabi-Yau manifolds

Wednesday 16 December 2020 16:15 (30 minutes)

In this talk, I will explain how to compute both Hodge numbers for complete intersection Calabi-Yau (CICY) 3-folds using machine learning. I will first make a tour of various machine learning algorithms and explain how exploratory data analysis can help in improving results for most of them. Then, I will describe a neural network inspired from the Google's Inception model which reaches nearly perfect accuracy for h11 using much less data than other approaches. The same architecture also performs much better than any other algorithm for h21.

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