

Particle Physics on the Plains 2022 Part 2



Contribution ID: 43

Type: **not specified**

Collider Physics with Symbolic Regression

Saturday 22 October 2022 14:55 (20 minutes)

Symbolic Regression represents a collection of methods to derive the symbolical expression of a formula given numerical values of the variables and the function values. Recent advances in machine learning have improved the performance of symbolic regression, and have attracted attention to use it to solve physics problems. We attempted to use symbolic regression to derive analytical formulas that are needed at various stages of a typical experimental analysis in collider phenomenology. We will demonstrate using two separate applications, that machine learning can derive the analytical expression given the appropriate training data.

Authors: MATCHEV, Konstantin (University of Florida (US)); KONG, Kyoungchul; DONG, Zhongtian (University of Kansas)

Presenter: DONG, Zhongtian (University of Kansas)

Session Classification: Session 3