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Implementation of XGBoost for a SUSY tau analysis

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The application of machine learning has become popular in high energy physics within recent years. In addition to standard cut-based analyses, more and more effort is put to develop new strategies. One of a highly effective and widely recognised machine learning ensemble method are gradient boosted decision trees. This talk presents the current implementation of an optimized gradient boosting framework called XGBoost for binary and multiclass classification in a search for supersymmetry in events with large missing transverse momentum jets and at least one hadronically decaying tau lepton. In addition, neural networks will be introduced to compare both approaches.

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