

# Adversarial Approaches (15'+5')

*Wednesday, December 13, 2017 10:20 AM (20 minutes)*

We use an adversarial neural network to train a jet classifier that remains largely uncorrelated with the jet mass — a nuisance parameter that is highly correlated with the observed features. This adversarial training strategy balances the dual objectives of classification accuracy and decorrelation, reducing the deleterious effect of systematic uncertainties in the background modeling. The result is a robust classifier with improved discovery significance relative to existing jet classification strategies.

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**Session Classification:** Learning from data