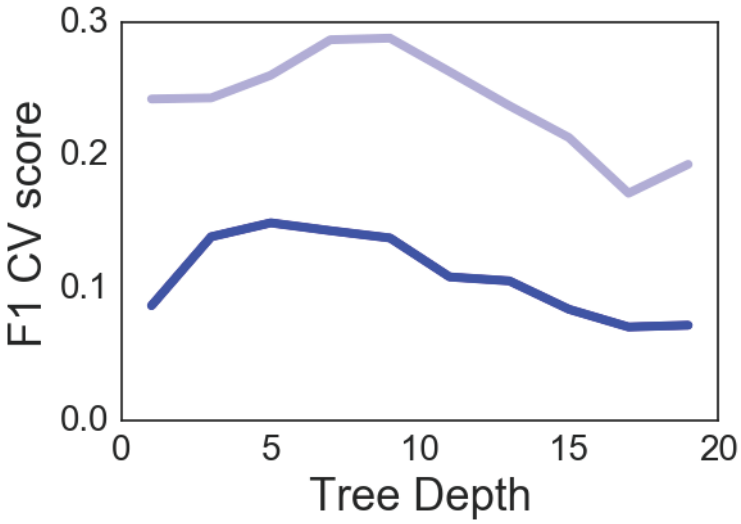
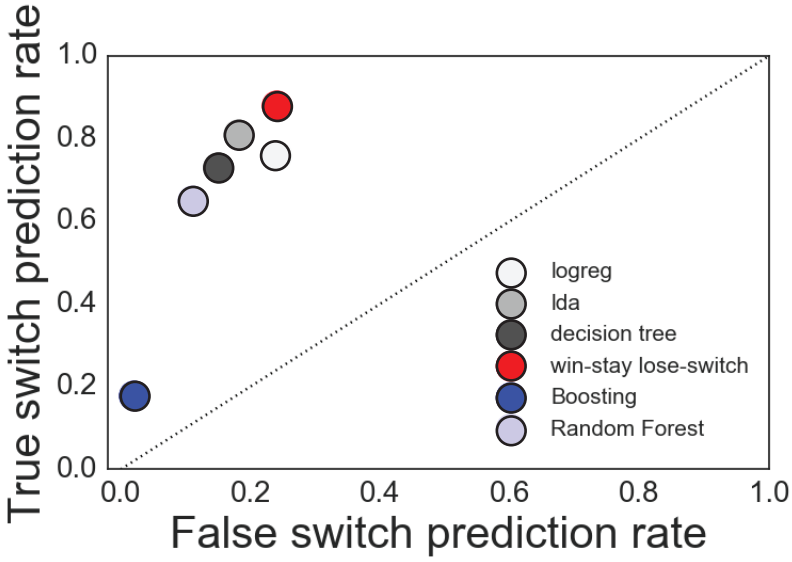
Can we achieve more accuracy at the expense of interpretability?

Tuning Boosting Classifier & Random Forest



Compare to previous models



Brief overview of other attempts...

Train a model to predict ‘switches’ specifically on trials where the previous reward is 0

Boost using all combinations of 1 and 2-depth decision trees.

Model using neural network (multi-layer perceptron)

Briefly explored using a Gaussian Mixture Model (results were extremely similar to LDA)

Created an additional feature ‘fraction of last 5 trials rewarded’

Calculated p(switch) for all possible outcome permuations of last 3 trials, fed in as features

Train and test only on a single mouse

Expand data to include less well performing mice (and increase ‘n’ to ~25,000)