# **Architecture and hyperparameters for each classification model**

* Principal Component Analysis (PCA) + Logistic Regression: {num\_components=20, penalty=l1, fit\_intercept=true, solver=lbfgs};
* Support Vector Machine: {loss=hinge, penalty=l2, fit\_intercept=true, alpha=0.0001};
* L1-norm Support Vector Machine: {loss=hinge, penalty=l1, fit\_intercept=true};
* L1-norm Support Vector Machine + Random Forest: {loss=hinge, penalty=l1, fit\_intercept=true, num\_estimators=100, split\_criterion=gini};
* Support Vector Machine + Muti-layer Perceptron: {loss=hinge, penalty=l1, fit\_intercept=true, hidden\_layers=(512, 256, 128, 64, 32), max\_iter=1000, activation=relu, solver=adam};
* Recursive Feature Elimination (RFE) + Logistic Regression: {penalty=l2, fit\_intercept=true, solver=lbfgs, alpha=0.0001, pct\_feature\_dropout=0.2};
* RFE + Random Forest: {num\_estimators=100, split\_criterion=gini, pct\_feature\_dropout=0.2}