Best Hyperparameters:

* {'n\_estimators': 1000, 'learning\_rate': 0.5, 'algorithm': 'SAMME'}

Metrics:

* Accuracy: 0.537828947368421
* Balanced accuracy: 0.406
* Precision: 0.5230844846087672
* Recall: 0.537828947368421
* F1: 0.5112559957620655

Adaptive Boosting, more commonly known as AdaboostBoost, is a supervised machine learning ensemble method. Adaboost implements decision trees with a single split (decision stump), where trees are trained iteratively and learn from the mistakes of the previous trees. For our experiments, we tested out a wide range of hyperparameters and used a randomized search to fine-tune our model. We found the optimal model used 1000 decision trees, a learning rate of 0.5, and SAMME discrete boosting algorithm.