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Authors

[Read more at The Hague Principles on Sexual Violence](#)

Modeling

Prediction of Sexual Violence

In this section, we use two models—Random Forest and XGBoost—to predict the occurrence of sexual violence. These models were selected for their ability to handle imbalanced classification tasks well.

Choose a Model for Prediction

Random Forest

You selected: Random Forest

Model Performance **Model Optimization**

Cross-validation and Grid Search Optimization

Cross-validation scores for recall and precision metrics

Mean Recall for class 1: 0.9783786186126987

Mean Precision for class 1: 0.8713927931507316

Grid Search for Hyperparameter Optimization

Best parameters: {'max_depth': 20, 'min_samples_leaf': 1, 'min_samples_split': 5, 'n_estimators': 100}

precision	recall	f1-score	support		
	0	0.98	0.79	0.87	3232
	1	0.30	0.86	0.44	342
accuracy				0.79	3574
macro avg	0.64	0.82	0.66		3574
weighted avg	0.92	0.79	0.83		3574

