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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

XGBoost

You selected: XGBoost

Model Performance **Model Optimization**

Cross-validation and Grid Search Optimization

Cross-validation scores for recall and precision metrics

Mean Recall for class 1: 0.9308927040741791

Mean Precision for class 1: 0.8530746927686824

Grid Search for Hyperparameter Optimization

Best parameters: {'learning_rate': 0.1, 'max_depth': 9, 'n_estimators': 200}

precision	recall	f1-score	support		
	0	0.98	0.83	0.90	3232
	1	0.35	0.87	0.50	342
accuracy				0.83	3574
macro avg	0.67	0.85	0.70		3574
weighted avg	0.92	0.83	0.86		3574

