

ASD vs TD Binary Classification - Summary

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Completed Phases: data_preparation, feature_engineering, exploratory_analysis, model_development

Data Summary:

Total sessions: 823

Unique children: 270

Label distribution: {'ASD': 489, 'TD': 334}

Model Performance (Holdout):

Best model: XGBoost

Best CV AUC: 0.830

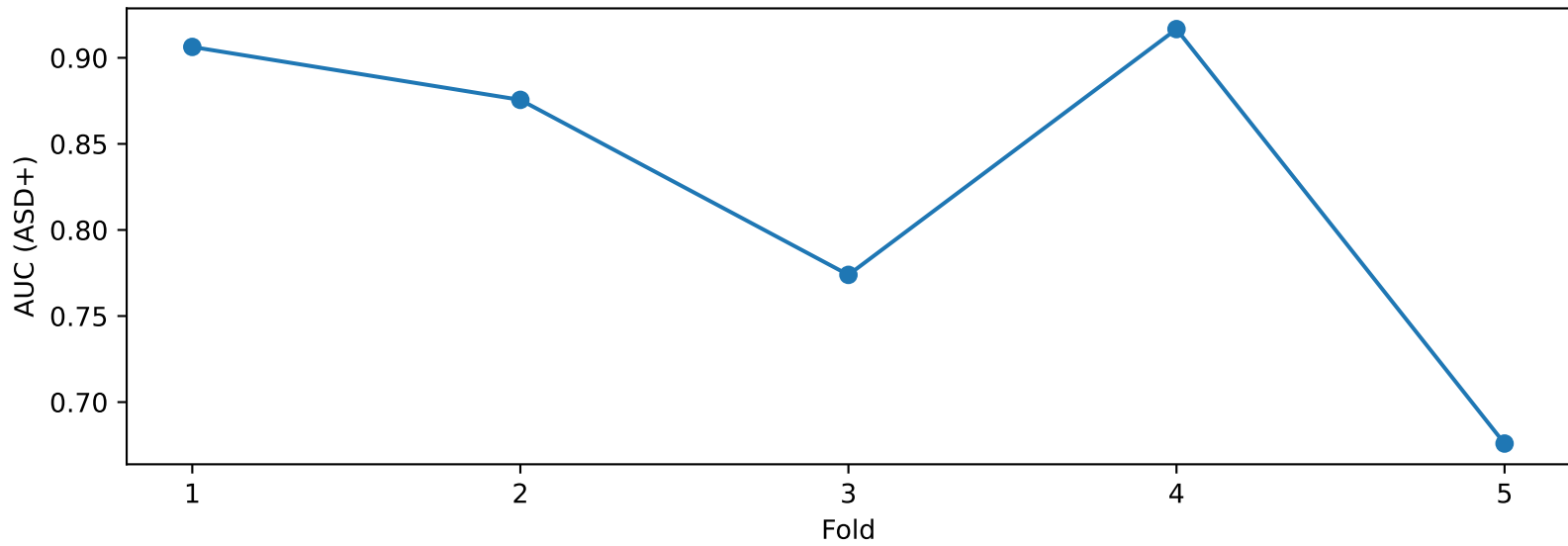
Holdout AUC: 0.8787878787878788

Holdout ASD Sensitivity: 0.6666666666666666

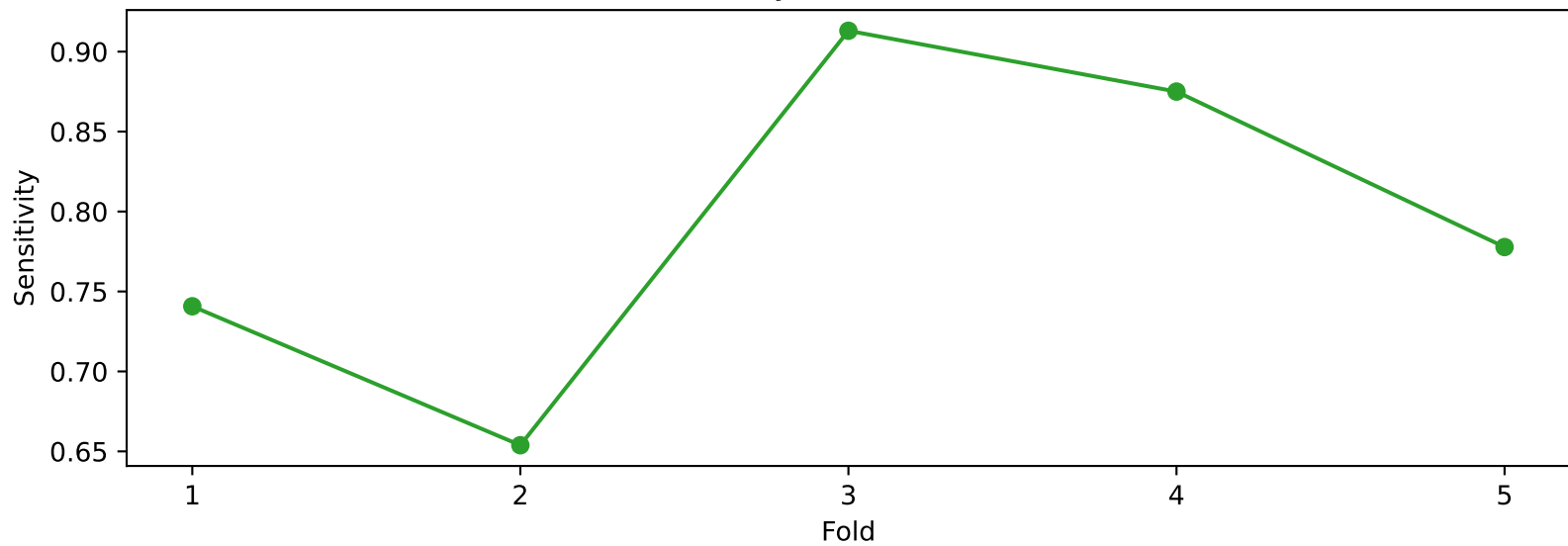
Holdout ASD Specificity: 0.9047619047619048

Cross-Validation Metrics (XGBoost)

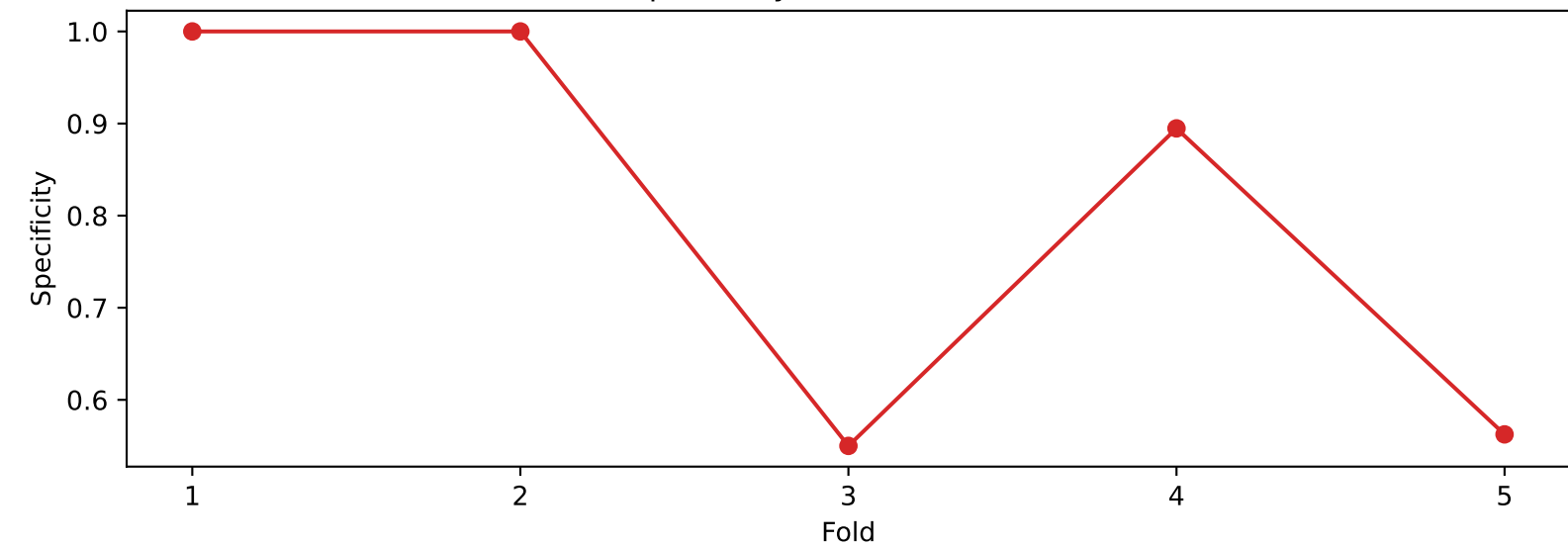
Fold AUCs (mean=0.830, std=0.092)



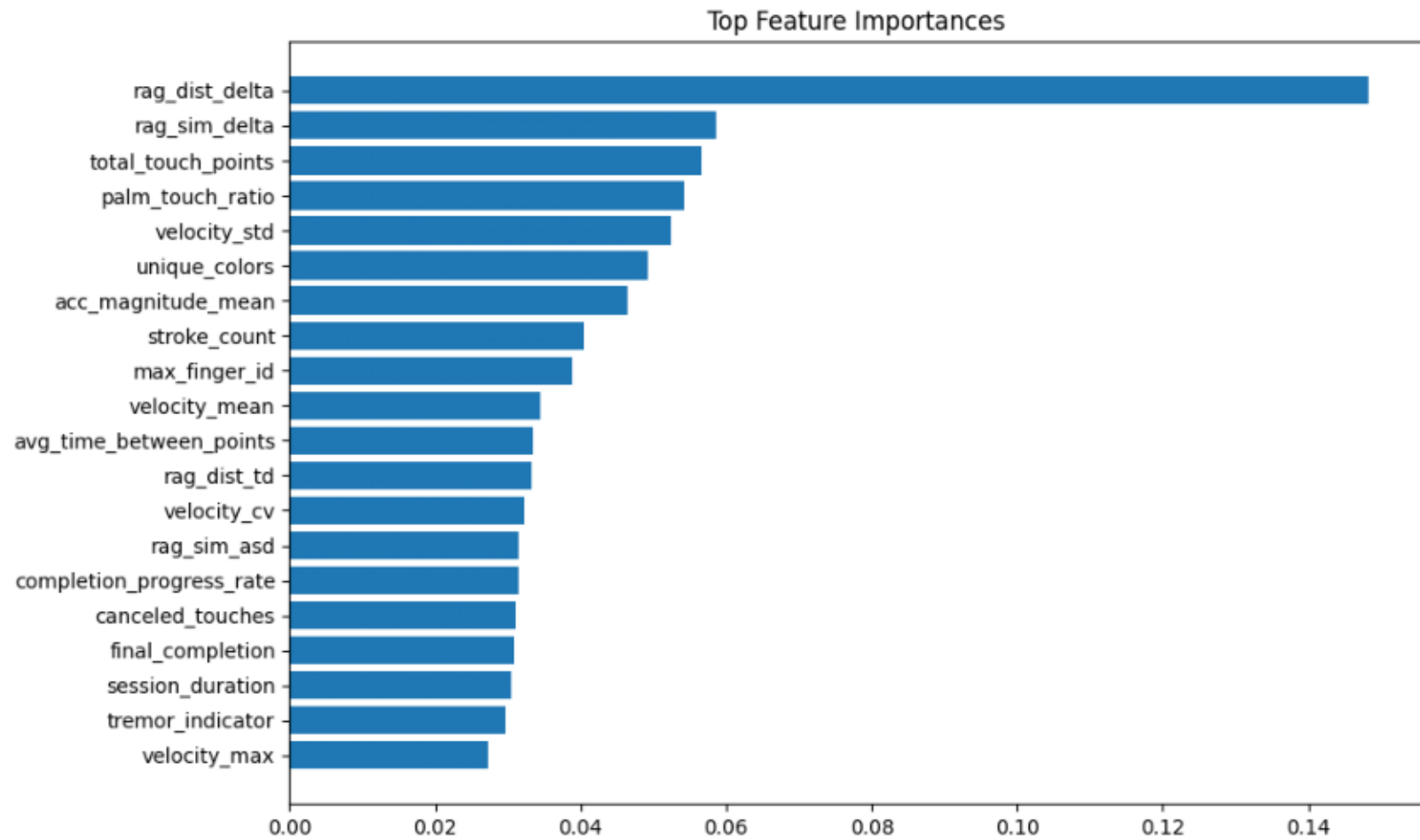
Fold ASD Sensitivity (mean=0.792, std=0.093)



Fold ASD Specificity (mean=0.801, std=0.204)



top_features.png



shap_summary.png

