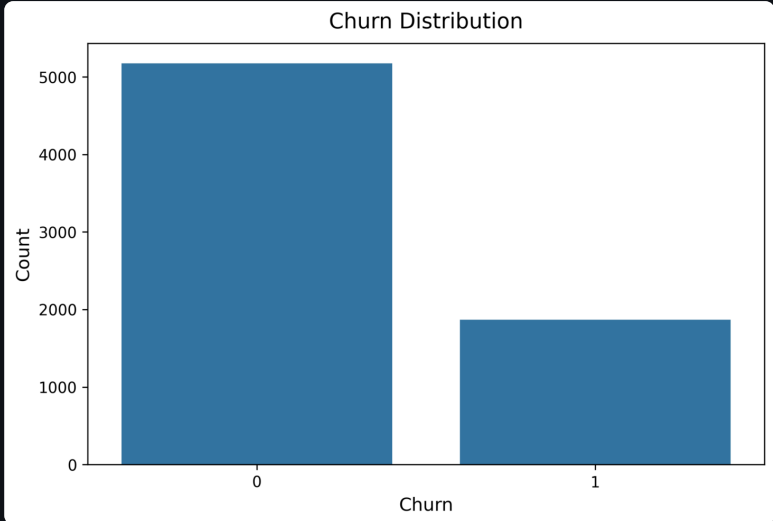
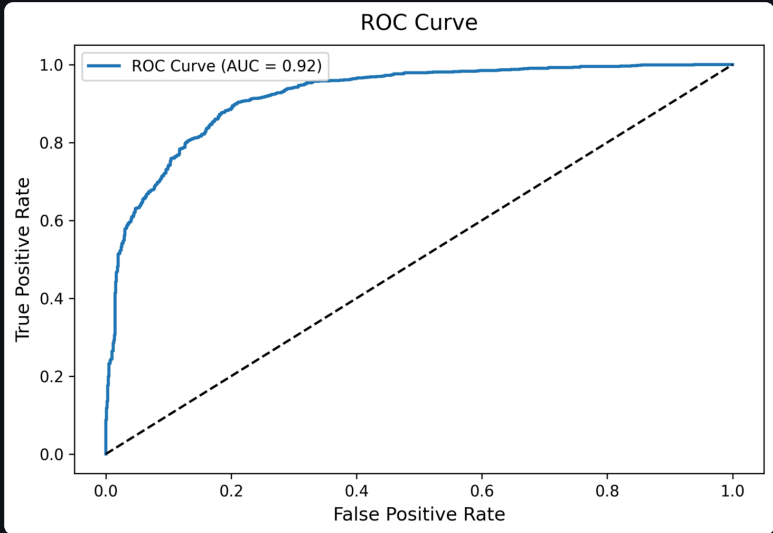


Customer Churn Prediction Dashboard

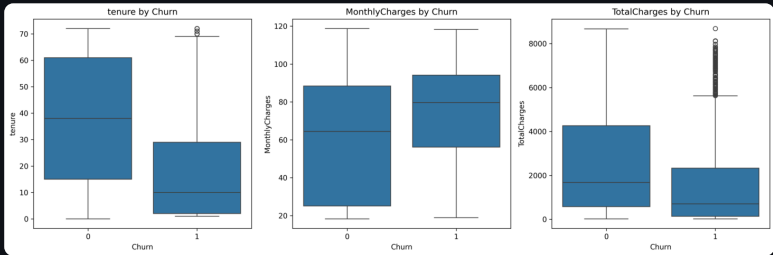
Model AUC-ROC: 1.00



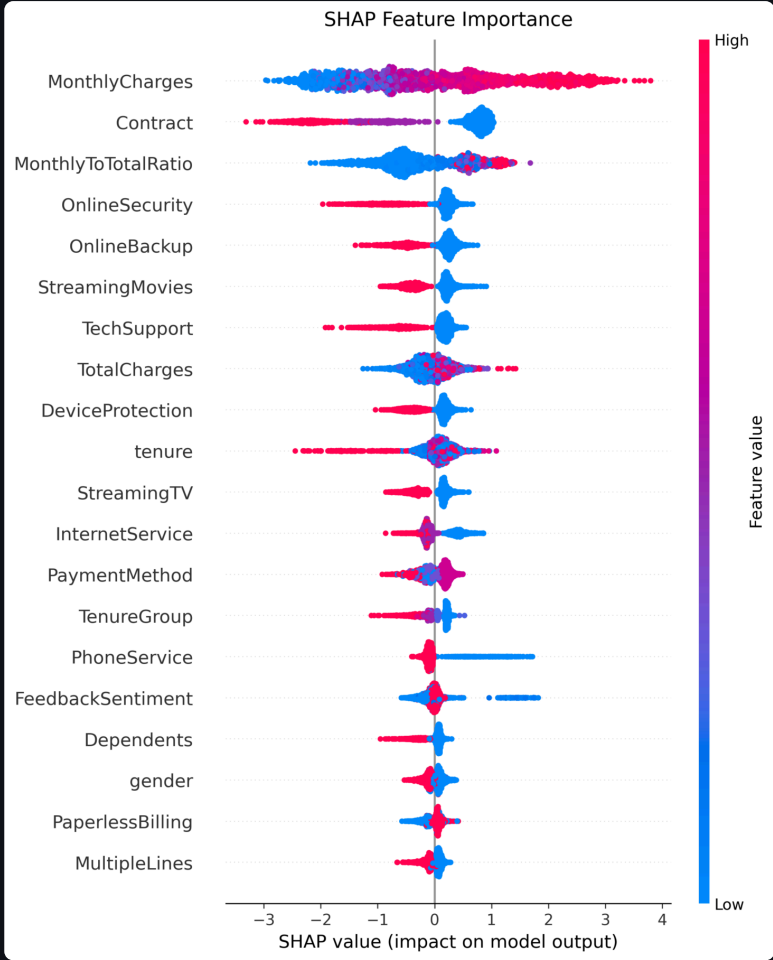
Churn Distribution



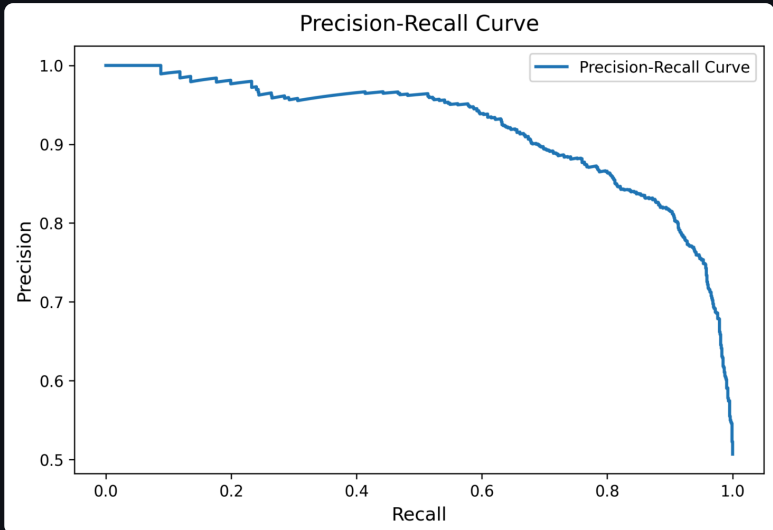
ROC Curve



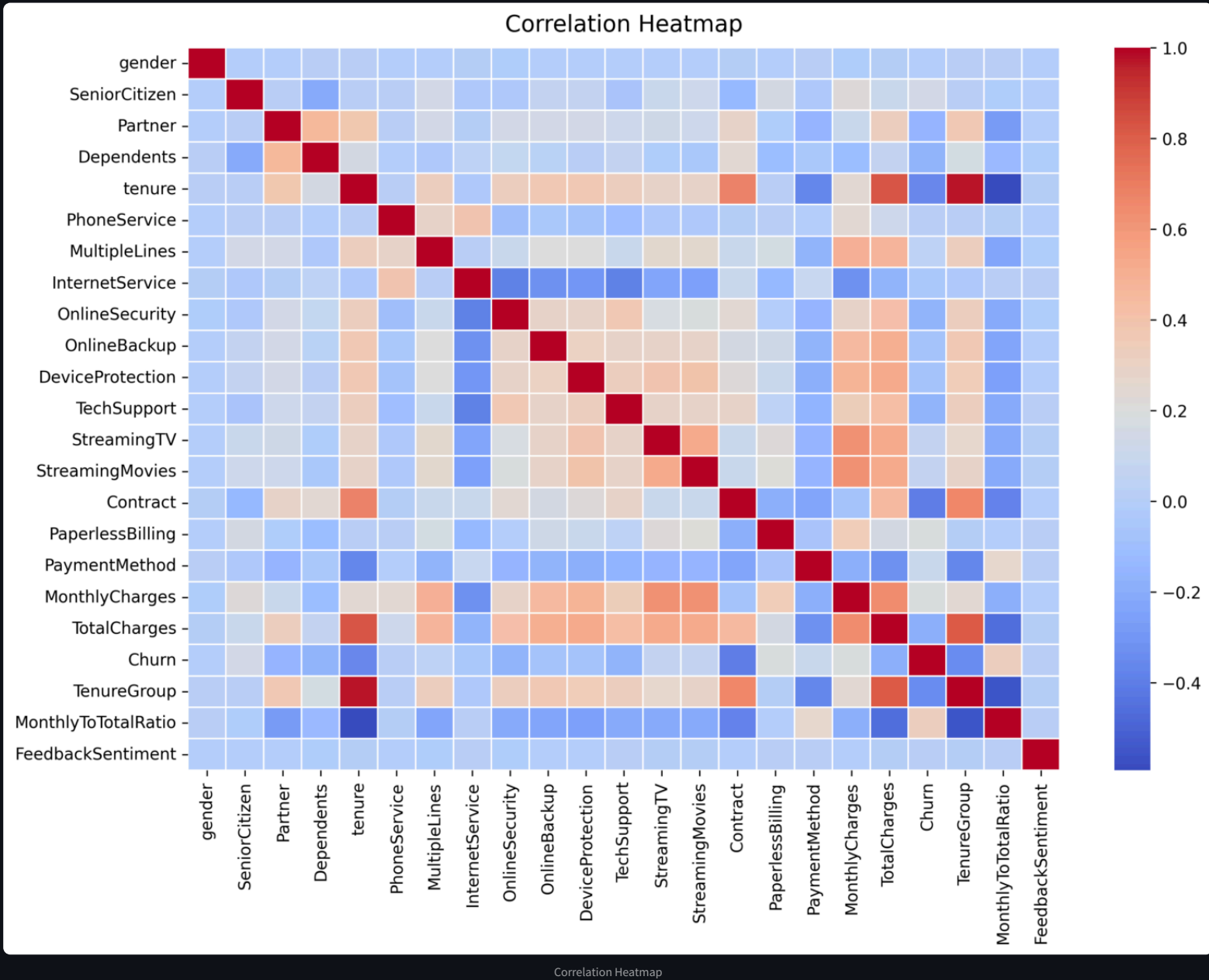
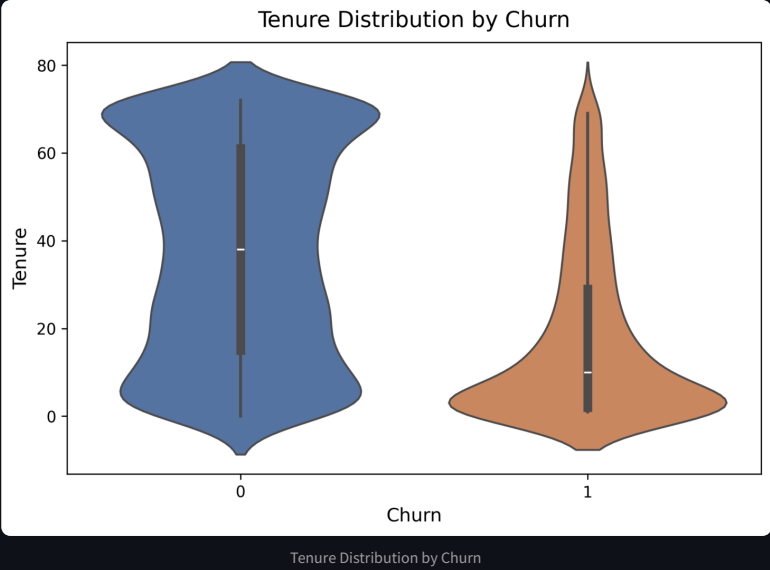
Box Plots of Numerical Features



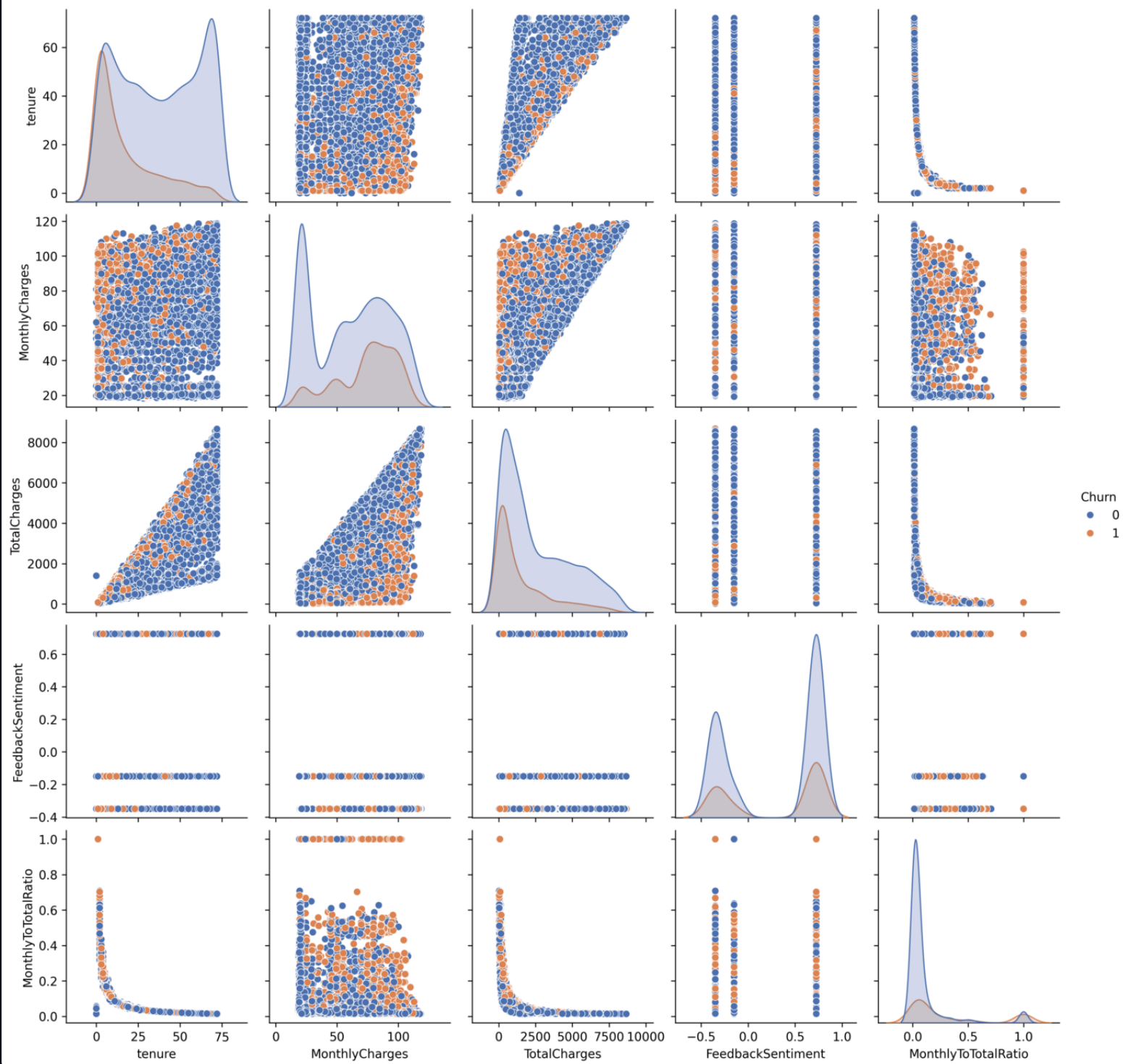
SHAP Feature Importance



Precision-Recall Curve

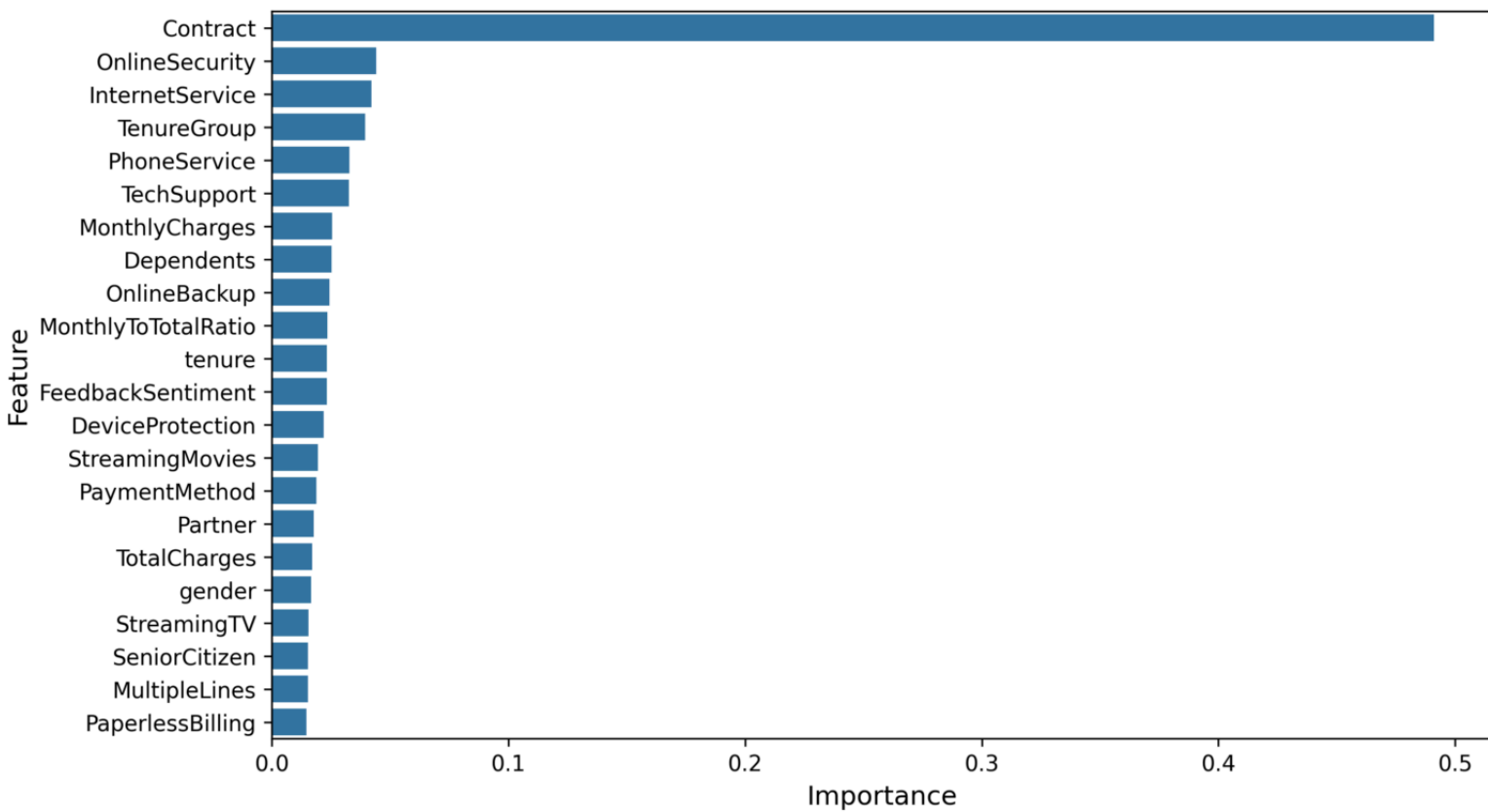


Pair Plot of Numerical Features by Churn



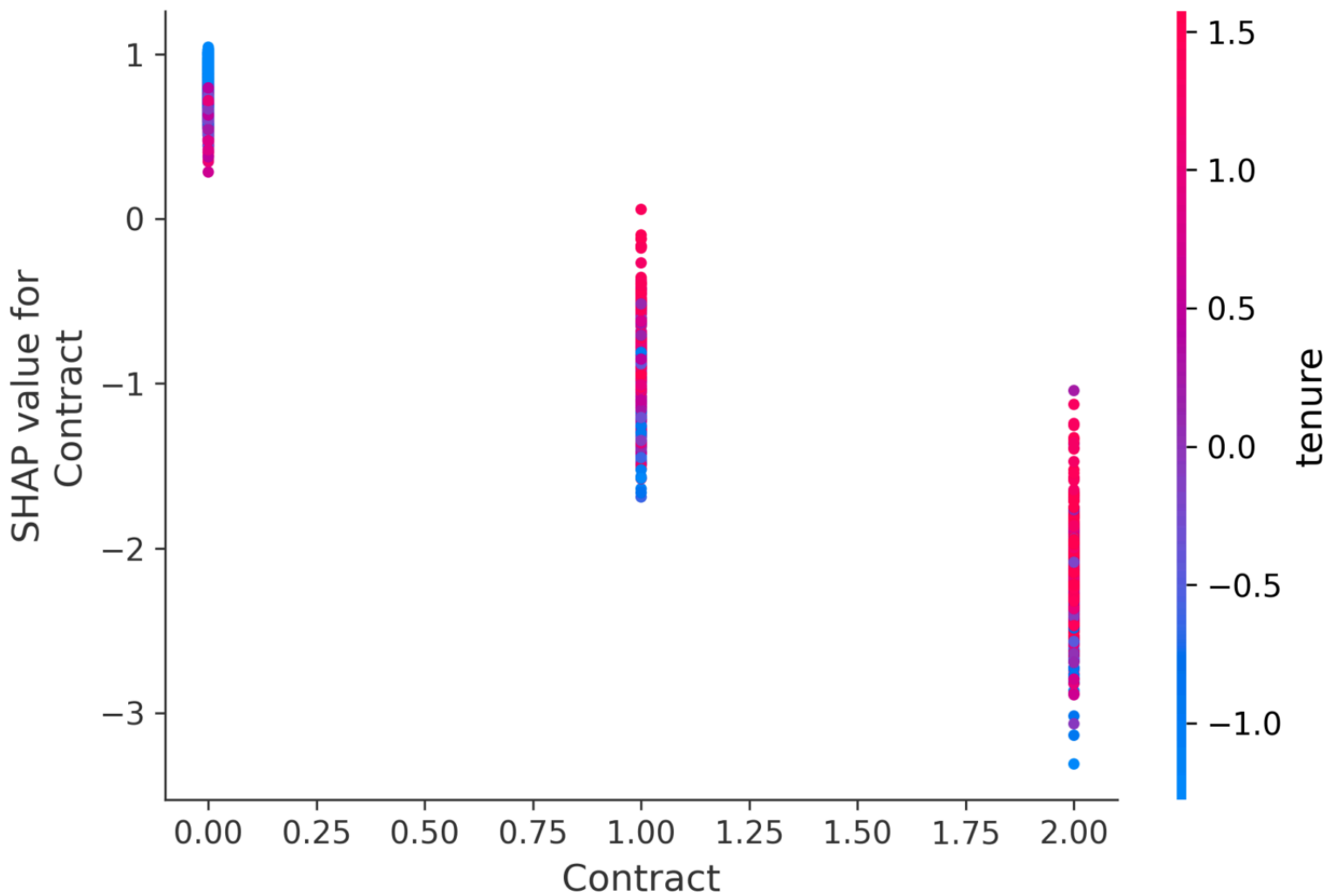
Pair Plot of Numerical Features

Feature Importance (XGBoost)



XGBoost Feature Importance

SHAP Dependence Plot for Contract



SHAP Dependence for Top Feature

High-Risk Customers (Churn Probability > 0.7)

Number of high-risk customers: 909

	gender	SeniorCitizen	Partner	Dependents	tenure	PhoneService	MultipleLines	InternetService	OnlineSecurity	OnlineBackup	DeviceProtection	TechSupport	StreamingTV	StreamingMovies	Contract
0	0	1	0	0	0.6312	1	1	1	0	1	0	0	0	0	
3	1	0	0	0	-0.9757	1	0	1	0	0	0	0	0	0	
5	0	1	0	0	-0.9924	1	0	1	0	1	0	0	1	0	
7	0	0	0	1	-0.7481	1	1	1	1	0	0	1	0	0	
8	0	0	0	0	-1.22	0	0	0	0	0	0	0	0	0	

Business Recommendations

- Improve customer support to address negative feedback.
- Offer loyalty discounts for short-tenure customers.
- Introduce flexible pricing plans for high-cost customers.