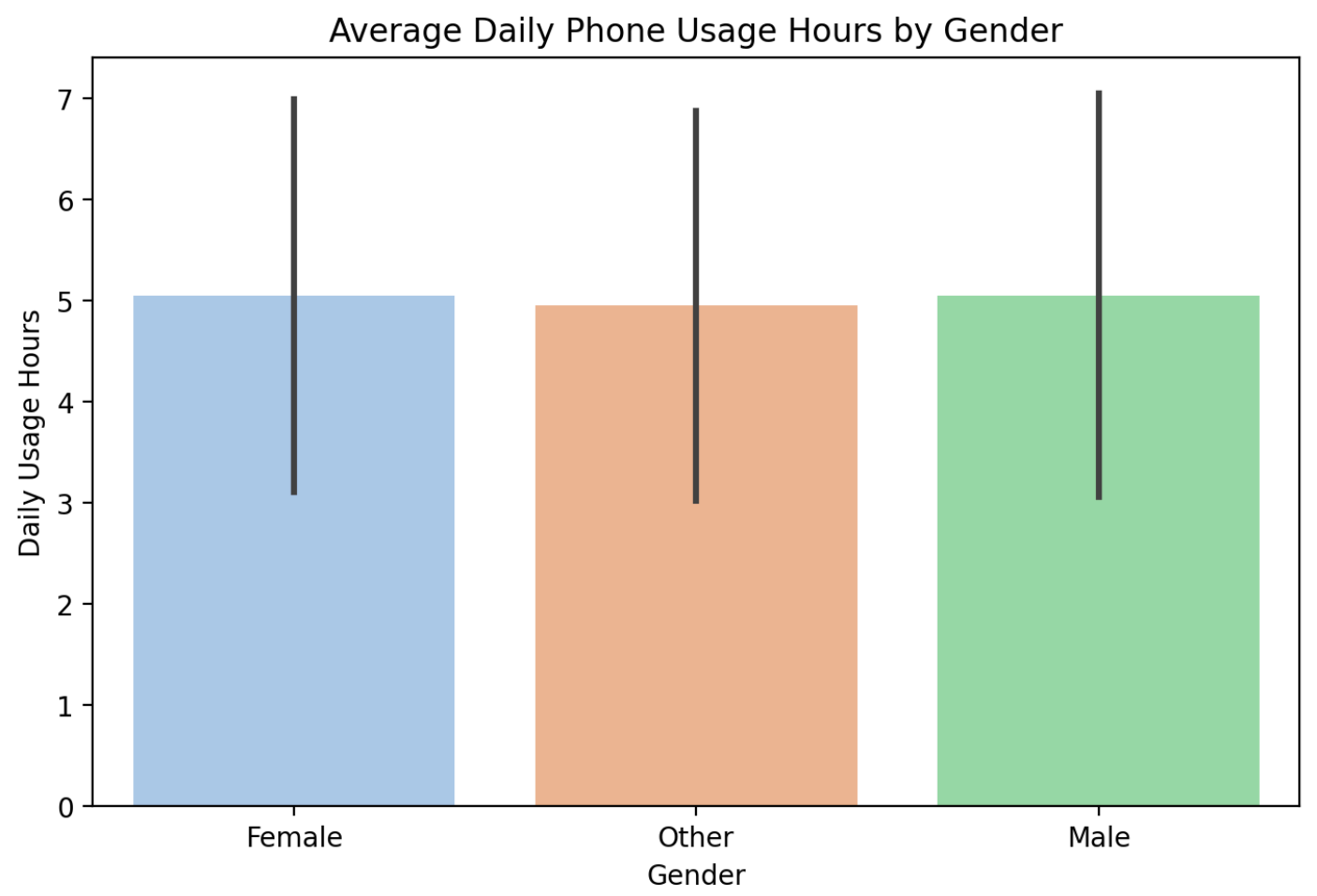
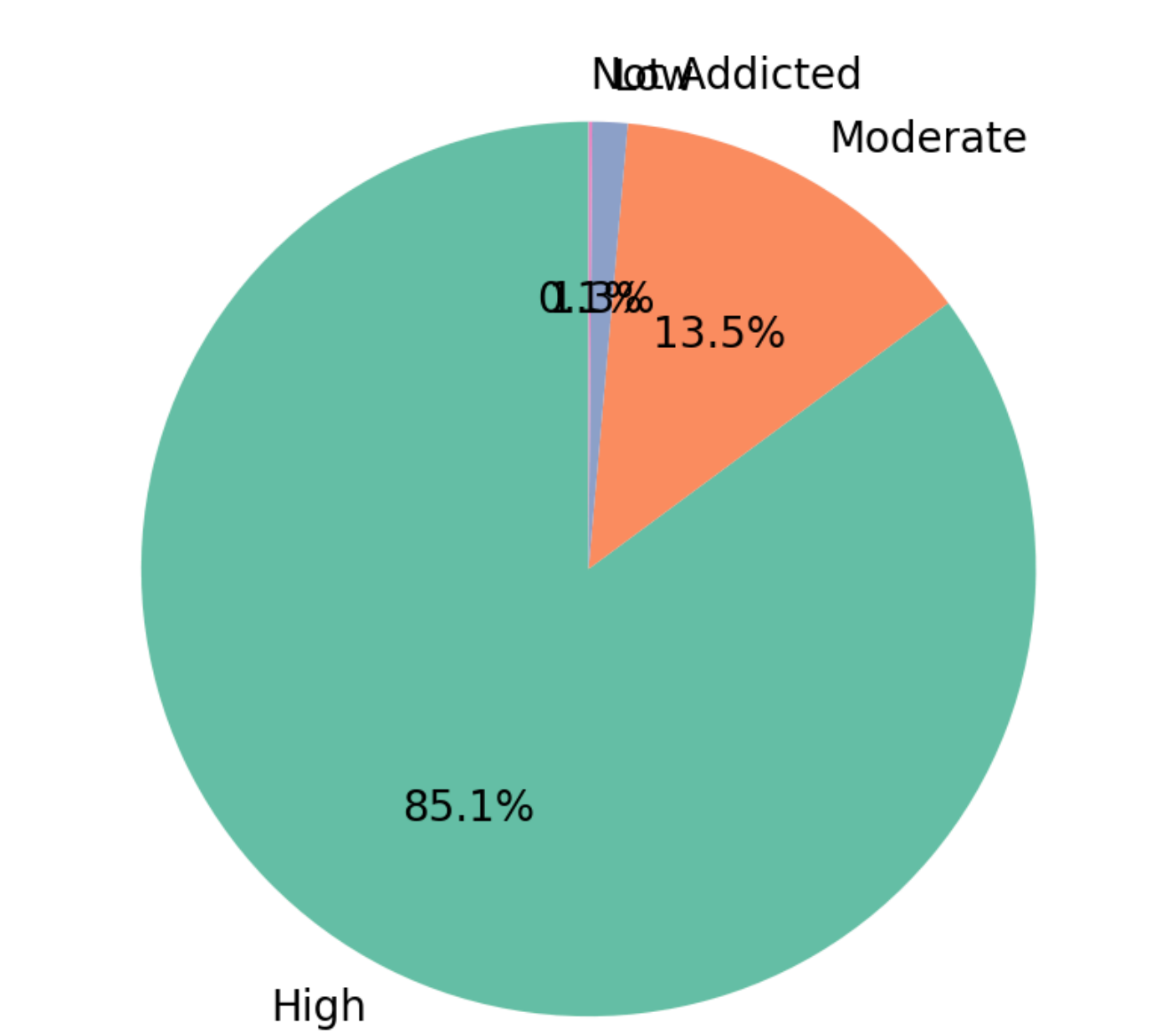


Teen Smartphone Addiction

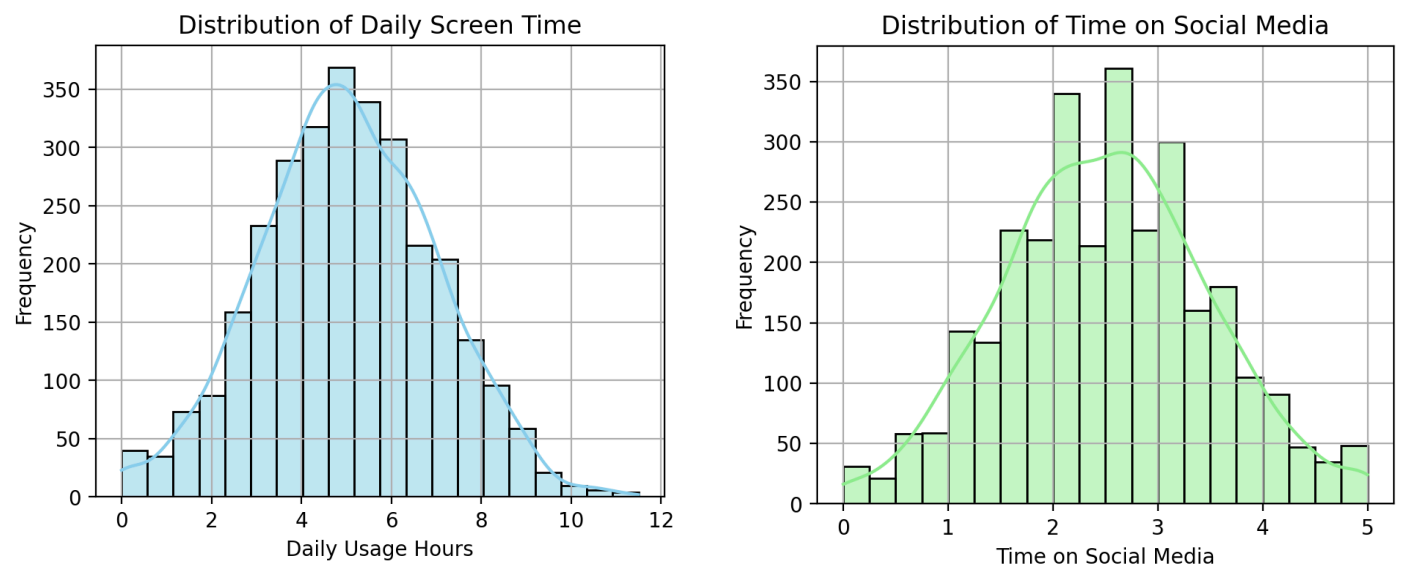
Dataset Preview

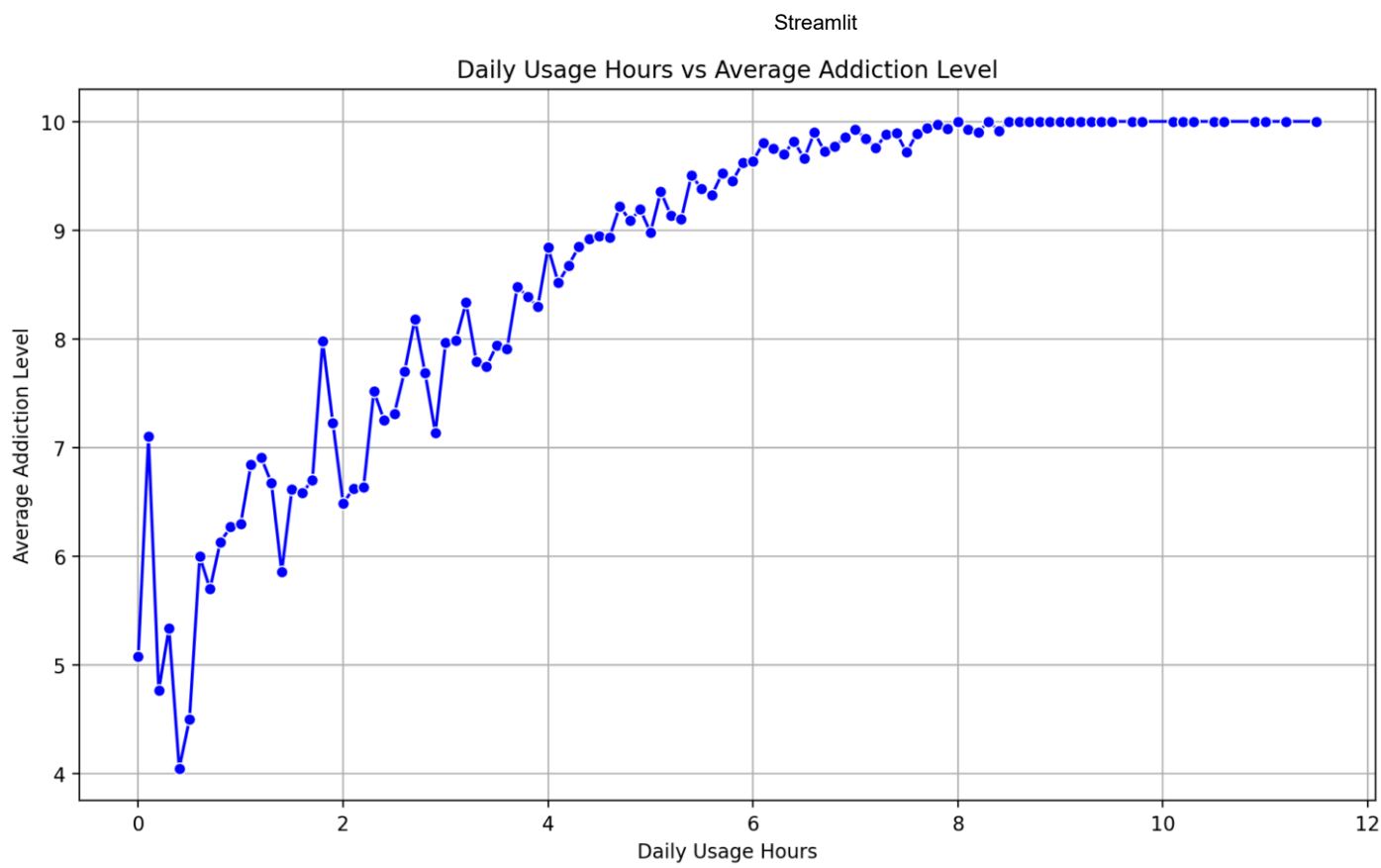
	ID	Name	Age	Gender	Location	School_Grade	Daily_Usage_Hours	Sleep_Hours
0	1	Shannon Francis	13	Female	Hansonfort	9th	4	
1	2	Scott Rodriguez	17	Female	Theodorefort	7th	5.5	
2	3	Adrian Knox	13	Other	Lindseystad	11th	5.8	
3	4	Brittany Hamilton	18	Female	West Anthony	12th	3.1	
4	5	Steven Smith	14	Other	Port Lindsaystad	9th	2.5	

Addiction Category Distribution



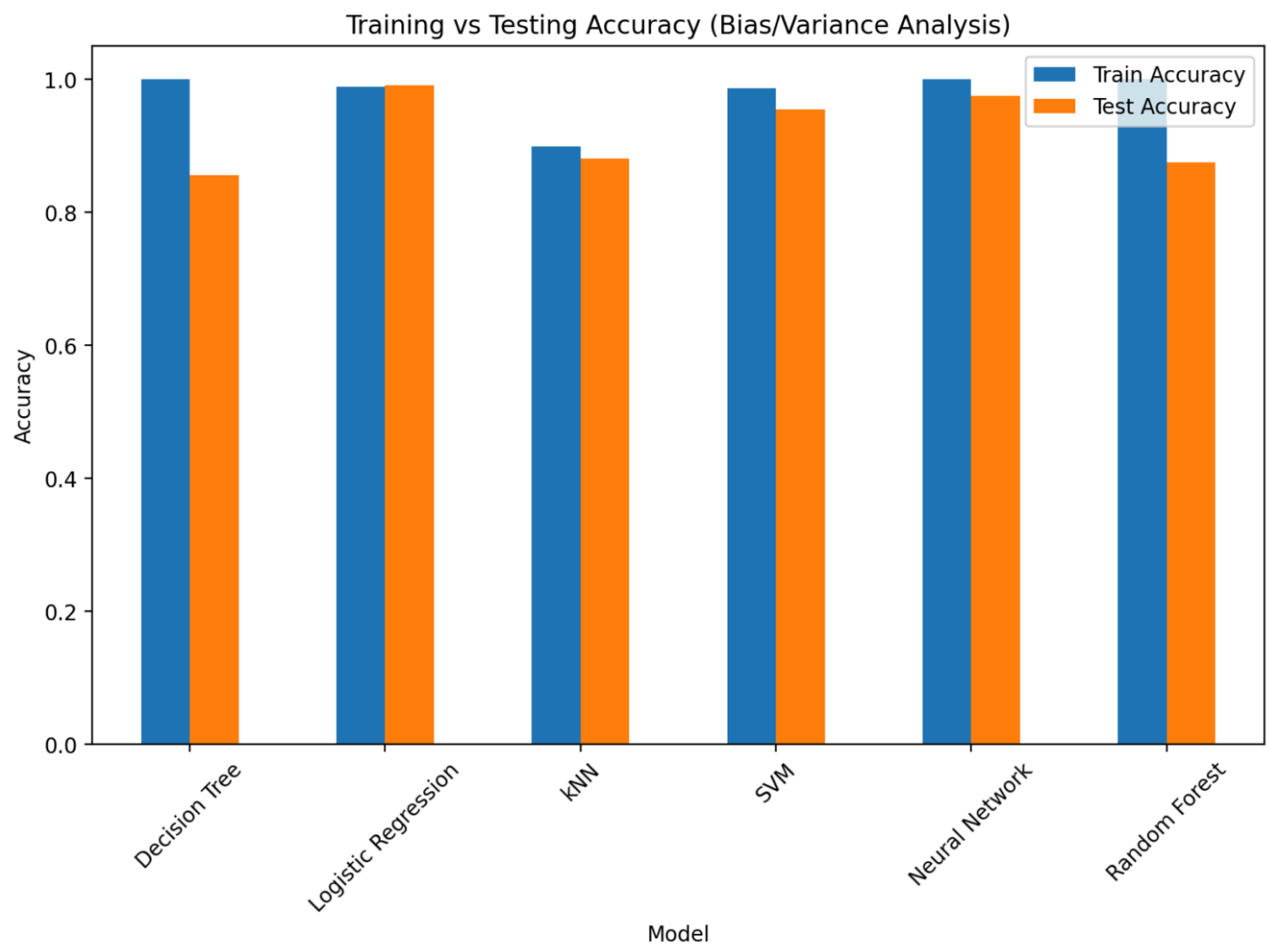
Screen Time Analysis



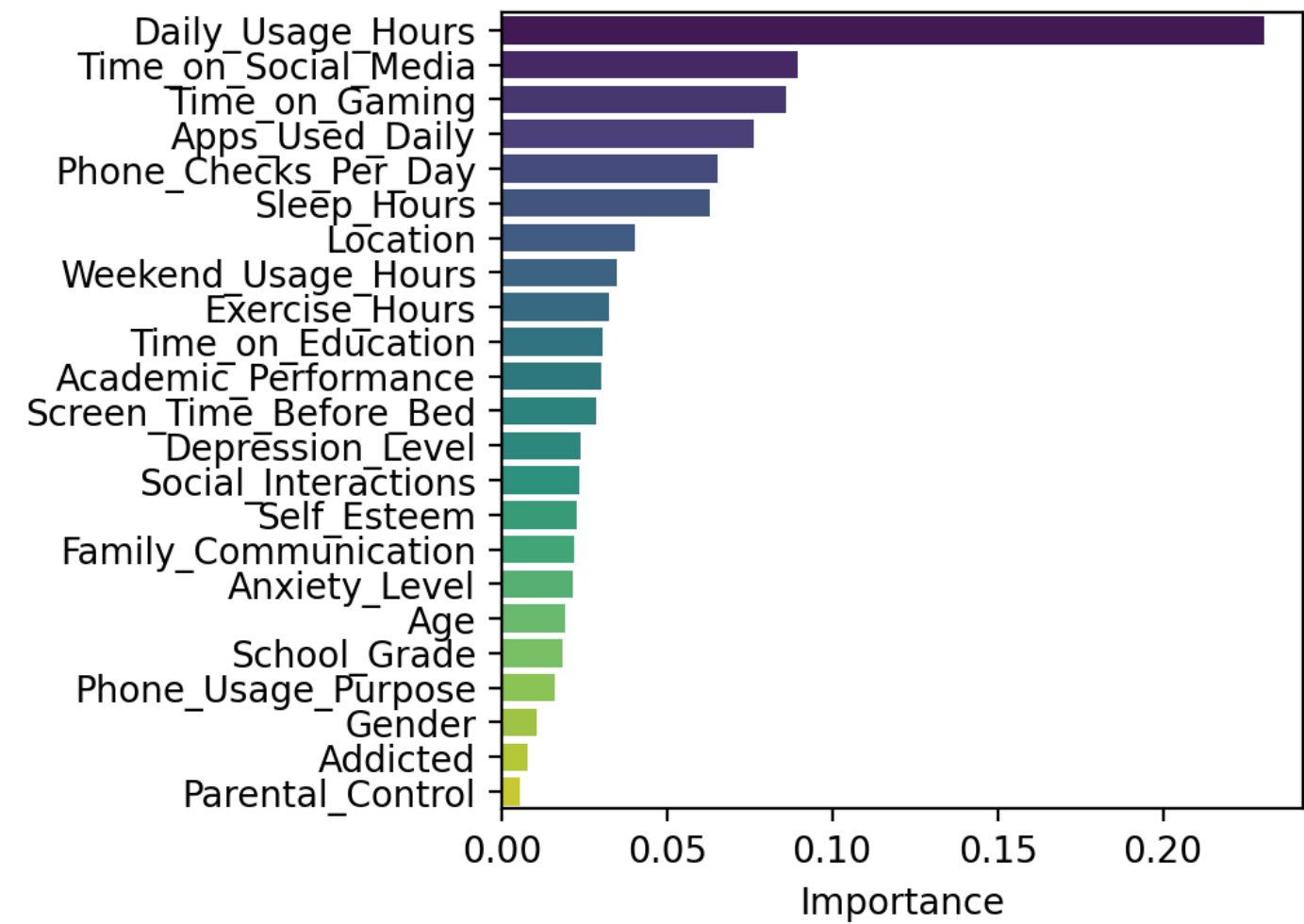


Model Performance

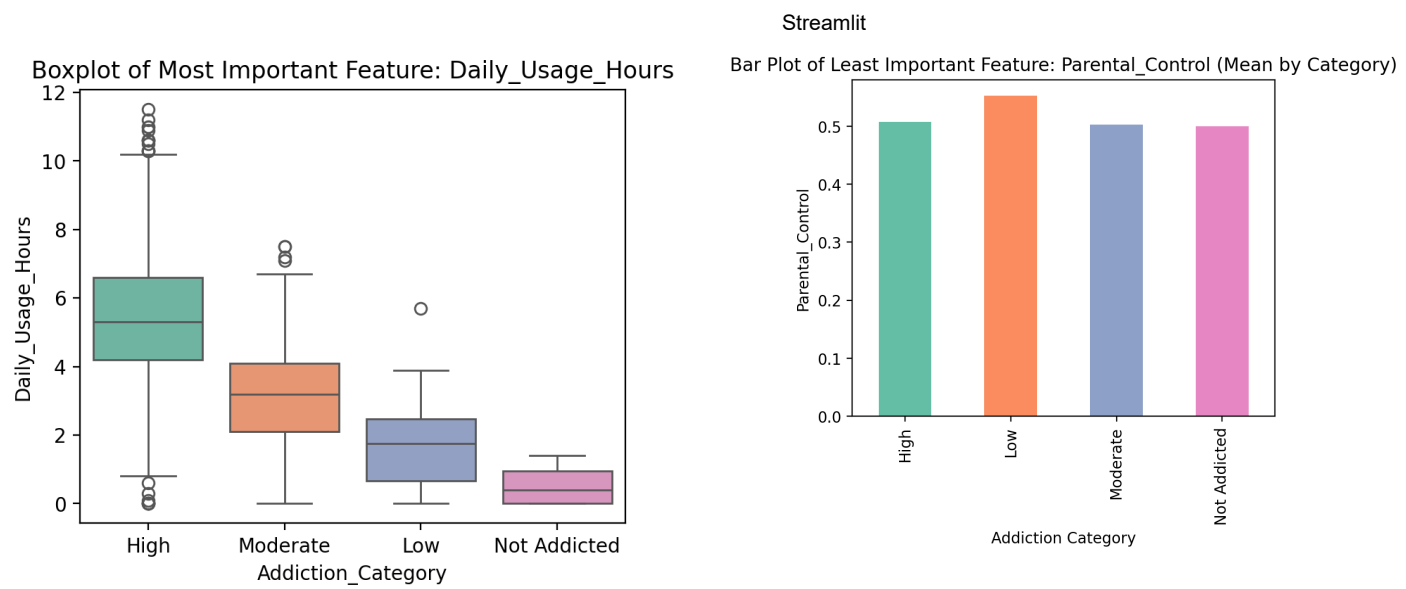
Model	Train Accuracy	Test Accuracy	Precision	Recall	F1 Score	Fit Status
Decision Tree	1.000000	0.856667	0.859706	0.856667	0.858071	Overfitting (High Variance)
Logistic Regression	0.989583	0.991667	0.990117	0.991667	0.990872	Good Fit
kNN	0.899583	0.881667	0.865491	0.881667	0.850891	Good Fit
SVM	0.986250	0.955000	0.951795	0.955000	0.952945	Good Fit
Neural Network	1.000000	0.975000	0.973542	0.975000	0.974222	Good Fit
Random Forest	1.000000	0.875000	0.838853	0.875000	0.835967	Overfitting (High Variance)



Random Forest Feature Importance



Boxplots for Most & Least Important Features



Binary Classification Metrics for Random Forest

Confusion Matrix

	Predicted Negative	Predicted Positive
Actual Negative	0	3
Actual Positive	0	597

Binary Classification Metrics

	Metric	Value
0	TPR (Recall/Sensitivity)	1
1	TNR (Specificity)	0
2	FPR	1
3	FNR	0
4	Accuracy	0.995
5	Precision	0.995
6	F1 Score	0.997
7	ROC-AUC Score	0.956

