Model Analysis Report

# Data Transformation Steps:

Missing values were imputed using the SimpleImputer with mean strategy.  
Normalization was applied to numerical features.  
Label Encoding was applied to categorical variables.

# Regression Results

## Model: Linear Regression

Mean Squared Error: 0.07350329995277269

Mean Absolute Error: 0.2230988344665788

R2 Score: -0.0016584936396590866

## Model: Random Forest Regressor

Mean Squared Error: 0.05396582921065612

Mean Absolute Error: 0.16761462871934182

R2 Score: 0.26458633517280816

## Model: SVR

Mean Squared Error: 0.07631299783288947

Mean Absolute Error: 0.2161756042237668

R2 Score: -0.03994735615315981

## Model: K-Nearest Neighbors Regressor

Mean Squared Error: 0.08761344358858245

Mean Absolute Error: 0.24223994357946724

R2 Score: -0.19394299281677774

## Model: Gradient Boosting Regressor

Mean Squared Error: 0.07265266277693418

Mean Absolute Error: 0.2199613103913241

R2 Score: 0.009933475057416374