

House Price Prediction Report (R Model)

1. Model Overview

- Target Variable: price
- Predictors: carpet_area, distance_from_metro, number_of_schools
- Model Type: Multiple Linear Regression (lm)

2. Model Fit Metrics

- R-squared: 0.794
- Adjusted R-squared: 0.791

3. RMSE Evaluation

- RMSE on Training Set: 1.699
- RMSE on Test Set: 2.242

4. Diagnostics Summary

- No multicollinearity detected ($VIF < 5$ for all variables)
- 19 influential points were removed using Cook's Distance
- Residuals show homoscedasticity
- Shapiro-Wilk p-value = 0.011 (mild deviation from normality)

5. Interpretation

- Model generalizes well with moderate prediction error.
- Ready for deployment and dashboard integration.