# House Price Prediction

# Problem Statement

- The goal is to predict house prices based on various features, such as location, size, and other attributes. This assists in better decision-making for buyers, sellers, and real estate professionals.

# Related Work

- Previous models and methods, such as linear regression and random forests, have been used to predict house prices. XGBoost offers an advanced approach with improved accuracy and efficiency.

# Proposed Methodology

- - Load and preprocess the Boston Housing Dataset.
- - Visualize data correlations using heatmaps.
- - Train an XGBoost model on the training set.
- - Evaluate model performance using metrics such as R-squared and Mean Absolute Error.

# Results

- The model demonstrated high accuracy with:
- - Training R-squared: Excellent predictive capability on training data.
- - Test R-squared: Consistent results on unseen data.
- Visualization shows a strong correlation between actual and predicted prices.

# Conclusions

- The XGBoost-based house price prediction model is highly effective.
- Future work can include additional feature engineering and exploring alternative datasets.