INTRODUCTION

Recent work on house price prediction has shown that combining feature engineering with advanced machine learning techniques significantly improves performance. A multi-modal deep learning model that integrates raw housing attributes, text descriptions, geospatial embeddings, and images outperforms simpler baselines by capturing complex patterns in the data [1]. Geo-spatial network embedding methods further enhance predictions by incorporating neighborhood amenities such as proximity to schools or transit hubs into the model [2]. In a study using the Boston Housing dataset, the Random Forest algorithm demonstrated robust predictive accuracy, achieving error margins within ±5 under certain metrics [3]. Another comparative analysis showed that combining multiple regression methods—including linear regression, polynomial, robust regression, and random forest—yields better estimation than relying on a single method, especially when features vary in importance [4]. Ensemble stacking techniques have also been shown to further reduce prediction error by combining the strengths of multiple models into a single predictive framework [5]. These findings suggest that ensemble methods and feature-rich models tend to generalize better in this domain. My own implementation on GitHub [6] builds on these results by implementing Random Forest and multi-feature regression with proper preprocessing and validation, yielding R^2 scores and RMSE metrics comparable to those in the literature.

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