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Evaluating Machine Learning and Deep Learning Models for Housing Price Prediction: A Review

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Abstract: In the world of the housing market, a dynamic and sensitive market, high dependence on machine/Deep learning (ML DL) for price prediction has been observed. This research indicates that certain machine learning and deep learning algorithms, including support vector machines, LSTM, RNN, decision trees, random forests, and linear regression, may detect both linear and nonlinear correlations in housing data. In this way, these models have become helpful to stakeholders like homeowners, investors, and urban planners for predicting the prices accurately and understanding the market trends. Model overfitting is still a challenge; feature selection and accuracy of the data still persist. In the future, research could be conducted on how to integrate many data, from real market trends to multimodal data such as property images in order to improve prediction accuracy. Further, hybrid models that combine the best of all in algorithms, as well as reinforcement learning and sophisticated optimization strategies, could also increase the ability and performance. Nonetheless, fairness and bias in automated systems have to be another part to take into consideration to assure an equitable result for all on behalf them. By raising these areas, housing price prediction models can grow sturdier, reliable and helpful for steering exact estate decisions, aiding the people and overall economy...

Keywords: Housing price prediction, machine learning, deep learning, linear regression, decision trees, random forests, LSTM, RNN, real estate, data quality, hybrid models, ethical AI



