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Stock Price Prediction Using Deep Learning Models

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Abstract: *Stock market price prediction has been a topic of extensive research due to its potential to provide valuable insights for investors, traders, and financial analysts. The objective of this research paper is to conduct a comprehensive analysis and comparative study of various machine learning and statistical models employed for stock market price prediction.*

The paper begins by presenting an overview of the importance and challenges associated with stock market price prediction, highlighting the need for accurate and reliable forecasting methods. Next, a thorough review of the existing literature on stock market prediction techniques is conducted, encompassing both traditional econometric models and advanced machine learning algorithms.

The research methodology involves collecting historical financial data from various sources and pre-processing it to ensure data quality. A comprehensive set of features, including technical indicators, fundamental data, and market sentiment, is extracted to capture different aspects of the stock market. Several popular machine learning models, such as linear regression, support vector machines, random forests, and deep learning architectures, are implemented and compared to evaluate their predictive performance.

Furthermore, the paper investigates the impact of feature selection techniques, model hyperparameter tuning, and ensemble methods on the prediction accuracy and robustness. Different evaluation metrics, including mean absolute error, means quared error, and directional accuracy, are employed to assess the models' performance

Keywords: Price prediction, LSTM, Deep Learning, Recurrent neural network (RNN)

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