PROJECT REPORT

COMPARISON BETWEEN DECISION TREE AND DEEP LEARNING ALGORITHM TO PREDICT RUBBER PRICES

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ABSTRACT

In this research, a comparison was conducted between the Decision Tree Regression and LSTM algorithms for predicting rubber prices, with training data ratios ranging from 60% to 80%. The performance of the algorithms was evaluated using loss functions, specifically MSE (Mean Squared Error) and RMSE (Root Mean Squared Error). The experimental results demonstrate that LSTM consistently outperformed Decision Tree Regression across all aspects. At the 80% training ratio, Decision Tree Regression achieved an average MSE of 6.14 and an RMSE of 2.47, while LSTM exhibited superior performance with an average MSE of 3.49, the lowest MSE of 3.33, an average RMSE of 1.86, and the lowest RMSE of 1.82. These findings indicate that LSTM, with its ability to capture complex patterns in the data, is more effective than Decision Tree Regression for rubber price prediction, as reflected in the lower MSE and RMSE values.

Keywords: *Long Short Term Memory, Decision Tree, Deep Learning, Machine Learning, Forecasting*