

Predicting the Forex Market with CNN-BiLSTM and CNN-LSTM

Saeedeh Varastehpour, Ali Abdolahi, Amir Farid Aminiyan Modares and Soheil Varastehpour

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Abstract

The foreign exchange (Forex) market is among the most volatile and complex financial systems. In this study, we examine the effectiveness of advanced deep learning models, including convolutional neural networks (CNN), long short-term memory (LSTM), bidirectional long short-term memory (BiLSTM), and their hybrid combinations for forecasting exchange rates. Historical data from Yahoo Finance (2004–25) at daily intervals was utilised for model training. The aim was to evaluate predictive performance regarding accuracy and risk reduction to support informed financial decision-making by focusing on major currency pairs such as GBP/USD and EUR/GBP. The results demonstrate that the proposed models can predict exchange rates with minimal error.

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epress@unitec.ac.nz
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Unitec
Private Bag 92025
Victoria Street West
Auckland 1142
New Zealand



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