EFFICIENT FORECASTING MODEL FOR WEB TRAFFIC PREDICTIONS

A. Mohanaradha Dr. M. Ezhilarasan Department of Information Technology Puducherry Technological University Puducherry, India

Web traffic forecasting is crucial for website man- agement, marketing strategies, and IT resource planning, as it enables organizations to anticipate trends, optimize performance, and improve user experience. This paper explores an Artificial Neural Network called Long Short-Term Memory (LSTM) and two advanced time series forecasting models such as Prophet and Time Generative Pre-trained Transformer (TimeGPT), offering unique methodologies for predicting web traffic patterns. This paper evaluates efficiency by comparing these models using key performance metrics such as Mean Absolute Error (MAE), Mean Squared Error (MSE), and Root Mean Squared Error (RMSE) to evaluate the predictive accuracy. Experimental results show that TimeGPT outperforms LSTM and Prophet, achieving the lowest MAE, MSE, and RMSE

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