

Stock Trend prediction Using Python and Machine Learning

**Project-III (IT06PPC31) report submitted to
Guru Ghasidas Vishwavidyalaya
in partial fulfilment for the award of the degree of
Bachelor of Technology
in
Information Technology**

**by
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**Under the supervision of
Dr. Ankit Kumar**



**Department of Information Technology
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Apr 3, 2025

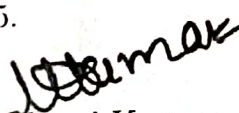
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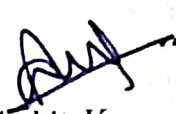
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CERTIFICATE

This is to certify that the project report entitled “Stock Trend prediction Using Python and Machine Learning” submitted by Ravi Kumar Kashyap, Somprabh Nishad, Suraj Manjhi (Roll No. 21036143, 21036155, 21036157) to Guru Ghasidas Vishwavidyalaya towards partial fulfilment of requirements for the award of degree of Bachelor of Technology in Information Technology is a record of bonafide work carried out by him under my supervision and guidance during Apr 3, 2025.


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Abstract

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Degree for which submitted: Bachelor of Technology

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Thesis supervisor: Dr. Ankit Kumar

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Stock market trend prediction is a challenging yet crucial task in financial analysis, helping investors make informed decisions. This project explores the use of machine learning techniques to predict stock price movements based on historical data. The study employs various models, including Random Forest for classification and Long Short-Term Memory (LSTM) networks for time-series forecasting. Key features such as moving averages, trading volume, and technical indicators are utilized to enhance predictive accuracy. The dataset is obtained from Yahoo Finance and preprocessed for effective model training. Performance evaluation is conducted using metrics such as accuracy, precision, and RMSE. The results demonstrate the potential of machine learning in financial forecasting while also highlighting the challenges posed by market volatility. Future improvements may include incorporating sentiment analysis and real-time data processing for more robust predictions.