**“Implementation of Algorithmic Trading strategies based on technical indicators and time series model”**

***Abstract*—This paper presents the development and implementation of a hybrid trading algorithm to predict stock price movements and generate actionable trading signals for the Nifty 500 index. The algorithm leverages linear and non-linear modelling techniques, combining the Autoregressive Integrated Moving Average (ARIMA) model with Long Short-Term Memory (LSTM) networks. By integrating these models, the system captures historical trends and intricate patterns in stock prices. Technical indicators such as the Exponential Moving Averages (EMA) and the Average Directional Index (ADX) are employed to create robust buy and sell signals. The trading strategy is tested using a comprehensive dataset, with performance measured through the Extended Internal Rate of Return (XIRR), showcasing the algorithm's potential for generating profitable trades. Future improvements include real-time access to National Stock Exchange (NSE) data, allowing for continuous model training and adaptation to market conditions.**