

Financial Time Series Forecasting with A Hybrid Bio-Inspired

Financial time series forecasting is a highly complex problem. The forecasting of some standard financial time series, as stock prices or level of indices, is a focus problem in several areas – statistics, econometrics and computer science researchers. Traditionally, different statistical models were used to forecast the behaviour of financial market trends. Linear regression, time series analysis, and chaos theory are some of them. However, generally, these methods are partially successful in predicting the behaviour of the stock price trends. This is mainly due to their non-reliability. Bio-inspired algorithms have emerged as a promising alternative to capture the non-linearity trend of the stock market price. However, due to the heuristic and non-deterministic nature of bio-inspired algorithms, no single algorithm is a clear winner to predict all aspects of financial markets. Therefore, this project focuses on developing a global financial forecasting system based on hybrid bio-inspired algorithms to avail the advantages of several bio-inspired algorithms that can predict closing stock price precisely. The developed hybrid forecasting model will be based on historical data covering a large span of time that can predict closing stock price precisely. The performance of this hybrid model will be compared to that of state-of-the-art forecasting models.

Required Skills: Basic knowledge on handling time-series data, Knowledge on Bio-inspired Algorithms, Experience on implementing ML techniques using Python.