Recent Developments in the Application of Deep Learning to Stock Market Prediction

Authors : Shraddha Jain Sharma, Ratnalata Gupta

Abstract : Predicting stock movements in the financial market is both difficult and rewarding. Analysts and academics are increasingly using advanced approaches such as machine learning techniques to anticipate stock price patterns, thanks to the expanding capacity of computing and the recent advent of graphics processing units and tensor processing units. Stock market prediction is a type of time series prediction that is incredibly difficult to do since stock prices are influenced by a variety of financial, socioeconomic, and political factors. Furthermore, even minor mistakes in stock market price forecasts can result in significant losses for companies that employ the findings of stock market price prediction for financial analysis and investment. Soft computing techniques are increasingly being employed for stock market prediction due to their better accuracy than traditional statistical methodologies. The proposed research looks at the need for soft computing techniques in stock market prediction, the numerous soft computing approaches that are important to the field, past work in the area with their prominent features, and the significant problems or issue domain that the area involves. For constructing a predictive model, the major focus is on neural networks and fuzzy logic. The stock market is extremely unpredictable, and it is unquestionably tough to correctly predict based on certain characteristics. This study provides a complete overview of the numerous strategies investigated for high accuracy prediction, with a focus on the most important characteristics.

Keywords : stock market prediction, artificial intelligence, artificial neural networks, fuzzy logic, accuracy, deep learning, machine learning, stock price, trading volume

Conference Title : ICADLPR 2022 : International Conference on Advances in Deep Learning for Pattern Recognition

Conference Location : New York, United States

Conference Dates : October 06-07, 2022