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An Analysis of Technical Data and Develop a Model to Predict All Share Price Index in Colombo Stock Market by Using Artificial Neural Network

BY

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Abstract

Stock market trends have been predicated over and over again to extract useful patterns and predict their movements. Stock market prediction has always had a certain appeal for researchers. Whilst, numerous scientific attempts have been made, but few methods have been discovered to accurately predict stock variables movements. There are various approaches in predicting the movements of stock prices and variety of prediction techniques has been used by stock market analysts.

Buying and selling shares is became one of the most popular and rewarding businesses among the business community. In contrast, not like earlier, nature of this business has turn into much more complex in the present world. Profitability and productivity are not solely depending on the company's profile or industrial growth. Whereas, depends on a mixture of dynamic ecological factors. Success of any business is a reflection of efficient decision making, made via analysis of historical data and prediction, which requires high skill, knowledge and industrial experience.

In Sri Lankan perspective, multinational and individual business investors seek advises from well experienced professional bodies in making their investment decisions by paying high consultancy charges. Apart from this, stockbrokers face critical problem of accommodating the demand owing to the lack of such skilled professionals and high service cost.

This research facilitates with the model to predict the movement of the Colombo Stock Exchange Index using an Artificial Intelligence technique such as the Artificial Neural Networks, which is trained using all fundamental or technical variables, to predict the behavior of stock movements and it is considered as an ideal method to handle pattern less past data. The variables used for this model includes technical data as well as macro economic data. The model was able to predict the CSE index with an accuracy of 97.8%.This model will also aid all business individual investors who are attached to CSE.

"I herby state that this dissertation and findings presented in it is my own and it has not been submitted before nor is it currently being submitted for any other degree program. Where material has been used from other sources due recognition has been given by mentioning the source."

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To the best of my knowledge, the above particulars are correct.

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Abbreviation

AI	-	Artificial Intelligent
NN	-	Neural Network
CSE	-	Colombo Stock Exchange
EMH	-	Efficient Market Hypothesis
RWT	-	Random Walk Theory
JSE	-	Johannesburg Stock Exchange
UNP	-	United National Party
SLFP	-	Sri Lanka Freedom Party
RMS	-	Root Mean Square

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