

# In the past few decades, stock market

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In the past few decades, stock market prediction became one of the major fields of research due to its wide domain of financial applications.

Stock market is known for its dynamic nature, complication and non-linear nature. It is also known as the equity market, the stock market is one of the most vital components of a free-market economy. Artificial neural network has seen massive interest in the over the last few years. ANN is used in many areas like finance, medicine, research and development and engineering. ANNs are mathematical models which were inspired from the understanding of some ideas and aspects of the biological neural systems such as the human brain.

ANN may be considered as a data processing technique that maps, or relates, some type of input stream of information to an output stream of processing. A neural network is a system composed of many simple processing elements operating in parallel whose function is determined by network structure, connection strengths, and the processing performed at computing elements or nodes" - DARPA Neural Network Study (1988). In past traditional methods were used to predict stock market. After much research it was observed that significant profit can be achieved even with slight improvement in the prediction since the volume of trading in stock markets is always huge.

There are two methods used in this field 1) Statistics model: These are statistical based approaches such as linear regression, Auto-regression and Auto-regression Moving Average 2) Soft Computing: This technique includes ANN, fuzzy logic, genetic algorithm. A multilayer neural network has

been used as a universal function approximator (input, hidden layer and output) finds its use in a number of fields like sales forecasting, data validation, customer research, price forecasting, healthcare etc. Though fuzzy logic and genetic algorithm are also used for stock prediction however, ANN is one of the successful methods which is widely used in solving prediction solutions. ANNs were used to solve a variety of problems in financial time series forecasting. For example, prediction of stock price movement became easier using ANN models. Neural networks have become an important method for stock market prediction because of their ability to handle large data sets which change rapidly in very short periods.

In Feedforward (FF) Multilayer Perceptron (MLP), which is one of the