

Assignment 4  
Bhargav bhukya  
5th Semester  
Biomedical engineering  
Nit Raipur.

## AI in Technical Analysis

Technical analysis (TA) is a way of predicting the direction of prices by examining historical market data, especially price and volume. The efficacy of both technical and fundamental analysis is disputed by the efficient-market hypothesis, which states that stock market prices are essentially unpredictable, this is the reason why TA is considered as pseudoscience.

- Market Action Discounts every thing.
- Price Move in Trend.
- History tends to repeat itself.

The technical analysis of the past is a complex problem. To predict the upcoming price and trade option is therefore a complex task. To solve such tasks we can apply artificial intelligence to specific Artificial Neural Networks (ANNs) . They are used because they can learn to detect complex patterns in data. In mathematical terms, they are universal function approximators, meaning that given the right data and configured correctly, they can capture and model any input-output relationships. This not only removes the need for human interpretation of charts or the series of rules for generating entry/exit signals, but also provides a bridge to fundamental analysis, as the variables used in fundamental analysis can be used as input.

Thus, we can use AI in TA and also can predict the movement of price based on market sentiments. To prove technical analysis as science we need to prove TA's link with a proper scientific tool known as Fundamental Analysis. The cross-correlation of The functions of technical analysis  $T(\theta)$  and fundamental analysis  $F(\theta)$  can provide us the evidences to prove TA is a valid scientific tool which can be used in stock market analysis and prediction. To find this cross-correlation we can use AI models that can analyse the past data of both technical and fundamental and find the cross-correlation. We can then develop a ML model based on our correlation theory which incorporate our correlation theory and use this model to predict and trade shares in stock market.