Assessment of Stock prices variation using Intelligent Machine Learning Techniques for the prediction of BSE

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**Abstract.** The main aim of this paper is to perform experimental study on highs and lows of a particular S&P BSE stock prices using proposed intelligent models MARS and M5’. The proposed model is working for prediction due to dynamism in stock price fluctuation. To perform experimental study, the stock data and related news are considered as a data set. The comparative study of models and the method used for model development are discussed. This paper discusses about efficiency of the machine learning models during this period and up to which the accuracy will be achieved. The observed daily highs and lows stock price data are taken into consideration. M5' method builds a tree in two phases: growing phase and pruning phase which smoothens the regression tree at nodes. MARS constructs a complex pattern of correlation between multiple variables. This would be helped investors or economists to produce meaningful information in either buy or sell a stock listed on BSE.

**Keywords:** Bombay Stock Exchange (BSE), Multivariate Adaptive Regression Spline (MARS), M5 Prime Regression Tree (M5’), Stock prices