

Investing in stocks is one of the things that is in great demand today for both companies and investors. The existence of an investment will help the continuity of the turnover of funds for the company and bring benefits to investors. Fluctuating stock price movements determine whether an investor will invest or not. To answer these doubts, stock price forecasting using various methods emerged. This forecast is intended to minimize the risk that can be obtained by investors from the closing price. Several methods that can be used are the Facebook Prophet Algorithm which is an open source from Facebook, Geometric Brownian Motion where the random variables follow Brownian motion, and Artificial Neural Networks which work the same way as the human brain by using various layers. This study will discuss which method can predict the best stock price by looking at the mean percentage error value of each method, then forecasting using that method will be carried out. The shares used are three LQ45 shares based on their fields, the smallest VaR return value, and the smallest log return variances, namely BBKA, ICBP, and TLKM. The results of this study show that the Facebook Prophet Algorithm provides the best forecasting value with MAPE ranging from 1.5% - 2%, followed by ANN with MAPE ranging from 2% - 4%, and finally GBM with MAPE ranging from 16 - 61%. Forecasting is carried out for the next 5 days using the Facebook Prophet Algorithm and it is concluded that the value of each stock will fluctuate with different levels of loss.