

Using Historical Data for Stock Prediction

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Abstract : In this paper, we use historical data to predict the stock price of a tech company. To this end, we use a dataset consisting of the stock prices in the past five years of ten major tech companies - Adobe, Amazon, Apple, Facebook, Google, Microsoft, Netflix, Oracle, Salesforce, and Tesla. We experimented with a variety of models- a linear regressor model, K nearest Neighbors (KNN), a sequential neural network - and algorithms - Multiplicative Weight Update, and AdaBoost. We found that the sequential neural network performed the best, with a testing error of 0.18%. Interestingly, the linear model performed the second best with a testing error of 0.73%. These results show that using historical data is enough to obtain high accuracies, and a simple algorithm like linear regression has a performance similar to more sophisticated models while taking less time and resources to implement.

Keywords : finance, machine learning, opening price, stock market

Conference Title : ICCPSMLA 2023 : International Conference on Computer Science, Machine Learning and Algorithms

Conference Location : Washington, United States

Conference Dates : February 20-21, 2023