ABSTRACT

Gold Price Movement Modeling Using Machine learning

Salwa Balqis Sulaeman[1)], Mohammad Nasucha[2)], Lathifah Alfat[2)]

[1)] Student of Informatics Department, Universitas Pembangunan Jaya
[2)] Lecturer of Informatics Department, Universitas Pembangunan Jaya

Gold is one of the most desirable investment tools in the world as one of the financial standards of the world economy. A gold investor must have expertise in predicting the ups and downs of the value of a gold, so a modeling of price movements is needed. The problem raised in this study is how to model the movement of gold prices with the K-Nearest-Neighbors algorithm and what the results of the comparison between the K-Nearest-Neighbors algorithm and Decision Tree are like. This study aims to provide a gold price movement model with the K-Nearest Neighbors algorithm and compare the accuracy of the model with the K-Nearest Neighbors algorithm and the model accuracy with the Decision Tree algorithm. This study uses quantitative methods with secondary data collection through observation and reference studies. The gold price datasheet is obtained from Investing.com with the variables used are High, Open, Low, Price in US Dollars per Oz. This research produces a model of gold price movements using the K-Nearest Neighbors and Decision Tree algorithms. Based on the results of the evaluation of the K-Nearest Neighbors algorithm in this case, it has an RMSE of 0.0124. While the Decision Tree algorithm in the same case has an RMSE of 0.0143. It can be concluded that for the case of machine learning-based modeling of gold price movements, the K-Nearest Neighbors algorithm is more suitable to be applied than the Decision Tree algorithm.

Keywords:*Machine learning, K-Nearest Neighbors Algorithm, Gold, Decision Tree.*

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