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The Influence of Sentiments in Digital Currency Prediction Using Hybrid Sentiment-based Support Vector Machine with Whale Optimization Algorithm (SVMWOA)

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Abstract

Getting an accurate prediction of a digital currency , also known as a cryptocurrency price index, becomes a significant factor in helping investors make the right decision. Failure to predict the movement of the crypto market gives a huge impact on profit loss. The difficult part is that market is dynamic in a way that is driven by many factors including inflation rate, economics, and natural calamities. This creates a chaos in the price of index so does the sentiment of the investor. This study proposes a machine learning model that applies a combination of sentiment-based support vector machine that is optimized by the whale optimization algorithm for predicting the daily price of a digital currency . Support Vector Machine (SVM) technique is used with the Whale Optimization Algorithm (WOA) which is inspired by the swarm optimization algorithms. The proposed Hybrid Sentiment-based Support Vector Machine with a Whale Optimization Algorithm (SVMWOA). will be evaluated and compared based on performance measures. The proposed method is compared with Support Vector Machine Optimized by Genetic Algorithm (SVMGA) and the Support Vector Machine Optimized by Harmony Search (SVMHS). The proposed model is found robust to be used in other fields of study. © 2021 IEEE.

Author keywords

Cryptocurrency; hybrid sentiment-based Support Vector Machine (SVMWOA); prediction ; Support Vector Machine (SVM); Whale Optimization Algorithm (WOA)

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