عنوان مقاله:

Bitcoin price forecasting using hybrid genetic algorithm

محل انتشار:

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خلاصه مقاله:

Bitcoin and digital currencies have emerged as a new market for investment. Therefore, the prediction of their future trend and prices is highly significant. In this research, the factors influencing the price of bitcoin were identified and extracted based on previous researches. The identified factors include the US dollar index, CPI index, S and P ۵۰۰, Dow Jones, and gold price. Considering the performance of metaheuristic algorithms in predicting bitcoin price, this research utilized genetic algorithm and particle swarm optimization algorithm, and proposed a hybrid algorithm to improve their performance.According to our results, among the investigated factors, the US dollar index has the greatest impact on bitcoin price, followed by inflation rate and the CPI index. Additionally, the proposed hybrid algorithm outperforms the particle swarm optimization and genetic algorithms, with a prediction error of ۷.۳%. It should be noted that the type and magnitude of the impact of the investigated factors may change over time. For example, a factor that previously had a direct .impact may become reversed or neutralized over time

کلمات کلیدی:

Bitcoin, genetic algorithm, Particle Swarm Optimization, Hybrid, prediction