

Arbitrage bot between crypto platforms

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The rapid development of the cryptocurrency market makes the creation of arbitrage trading systems a relevant and promising research direction. The essence of arbitrage trading lies in identifying price differences across various cryptocurrency exchanges and using these differences to generate profit. However, this field is associated with significant technical and security challenges.

The project will focus on the design of an arbitrage trading bot for the cryptocurrency market and the development of a secure software architecture. The main challenges will include real-time data processing, rapid identification of arbitrage opportunities, and ensuring information security, since the system will interact with external exchange APIs and financial data.

Existing solutions include various algorithmic trading platforms and bots; however, they often suffer from security, scalability, and reliability issues.

Within the project, it is planned to develop an arbitrage bot based on the Python programming language using the Flask framework, as well as to design a web interface using HTML, CSS, and JavaScript technologies. It is planned to implement a test trading mode, test balances, secure API key management, JWT-based authentication, and data encryption mechanisms.

The paper will present the planned system architecture, security principles, expected challenges, and their solutions. The ultimate goal of the project is to create a secure, stable, and scalable arbitrage trading bot that minimizes both internal and external threats.