



COLLEGE of ENGINEERING
AND PHYSICAL SCIENCES

SCHOOL OF COMPUTER SCIENCE

MSc Seminar

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Xiangyu (Sherry) Ruan

Market manipulation detection on Decentralized exchange

Advisor: Dr. Xiaodong Lin

Advisory: Dr. Ali Dehghantanha

Abstract:

Market manipulation is a widely discussed and studied problem in traditional financial field, especially in stock market, including transaction manipulation such as wash trading and spoofing, and information-based manipulation such as pump-and-dump and front running. These market manipulation behaviors usually bring huge profits to the manipulators, while on the other hand, they cause huge economic losses to more other investors and cause market disorder to some extent. To detect and prevent the market manipulation on stock market, there have been attempts to apply machine learning to detect and classify manipulative behaviors. However, most of the existing methods only shows their efficiency on the test set on the same stocks, while the performance is weak on a new stock data set.

Similar to the traditional stock market, market manipulation has begun to develop in the spot trading market for cryptocurrencies, due to the cryptocurrency's popularity and strong capital inflows. Fortunately, all the trading data and account behavior data is transparent to the public for decentralized exchanges on blockchain, which enable us to extract some useful features from blockchain data to better detect manipulation behaviors. In this seminar, we will briefly introduce the existing challenges on market manipulation detection and some new opportunities on decentralized exchanges, followed by a risk model to evaluate the detection method.