

MSc(CS) Dissertation Public Seminar

\*\*\*\*\*

Title: Digital Currency Visualization

Speaker: Cao Tianying

Date & Time: July 14 2020, Tuesday, 10:00am

Zoom Meeting Link: <https://hku.zoom.us/j/94000809877>

Meeting ID: 940 0080 9877

Password: 405557

Abstract:

Digital currencies, is typically a digital asset stored in a visual ledger and is not real money issued by central bank. It has tremendously influenced the world and there occurs many different cryptocurrencies species for the prevalence of digital currencies. The decentralized nature, per se anonymous characteristic and the encryption technology make the huge information behinds the cryptocurrencies more difficult to access.

However, recent studies on the visualization of digital currencies, especially the bitcoin, provide a variety of tools to analyze the inner information of the digital currency related data. Therefore, in the beginning, this work provided a systematic review of the four main tasks of bitcoin visualization: transaction detail visualization, network visualization, cybercrime detection and digital currency exchange visualization, which contains many visualization tools separately.

After the comprehensive review, I choose to dig into the economic aspect of digital currencies with transaction detail visualization method. Then in the implementation of the visualization, the JSON dataset, HTTP API and existing Quandl Python modules are utilized to get the raw data. The detailed digital currencies visualization focusses on three economic aspects: cryptocurrencies trends analysis, cryptocurrencies exchanges rates visualization and the visualization of correlations between different digital currencies.

About the Speaker:

Cao Tianying is currently a full-time MSc(CS) student of the Department of Computer Science in the University of Hong Kong. Her supervisor is Dr. Hao Xiong.

All are welcome!

Tel: 3917-1828 for enquiries

MSc(CS) Dissertation Public Seminar

\*\*\*\*\*

Title: The Prediction of Financial Sequence Based on EMD and Machine Learning

Speaker: Cai Jiajun

Date & Time: July 14 2020, Tuesday, 10:45am

Zoom Meeting Link: <https://hku.zoom.us/j/94000809877>

Meeting ID: 940 0080 9877

Password: 405557

Abstract:

Forecasting of financial time series is always a difficult and tempting topic over the world. It becomes extremely hard when no extra information can be utilized. To solve it, this dissertation proposes a framework based on Empirical Mode Decomposition (EMD) and machine learning models with the general idea of “decompose + recombine”. We adopt five machine learning models including Prophet, DeepAR, Long Short-Term Memory Network (LSTM), support vector regression (SVR) and XGBoost model into our framework and apply the framework in the forecasting of S&P500 index, exchange rate of USDGBP and Brent Oil price. The experiment results demonstrate that: 1) the framework successfully improve the forecasting result with valuable practical reference; 2) the framework has strong robustness by employing model ensemble method.

About the Speaker:

Cai Jiajun is currently a full-time MSc(CS) student of the Department of Computer Science in the University of Hong Kong. His supervisor is Dr. JR Zhang.

All are welcome!

Tel: 3917-1828 for enquiries