QISHUANG FU

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EDUCATION

Sun Yat-sen University **Sep 2021 – Jun 2024**
M.Phil. in Software Engineering; GPA: 90/100 *Guangzhou, China*

Dalian University of Technology **Sep 2017 – Jun 2021**
B.Eng. in Automation; GPA: 88/100 *Dalian, China*

PUBLICATIONS & PATENTS

Journal Papers

[1] **Qishuang Fu**, Dan Lin, Jiajing Wu, Zibin Zheng, "A General Framework for Account Risk Rating on Ethereum: Toward Safer Blockchain Technology", *IEEE Transactions on Computational Social Systems (TCSS)*, Early Access, Apr. 2023.

[2] Jiajing Wu, Dan Lin, **Qishuang Fu**, et al., "Towards Understanding Crypto Money Laundering in Web3 Through the Lenses of Ethereum Heists", *IEEE Transactions on Information Forensics and Security (TIFS)*, Vol.19, pp.1994-2009, Dec. 2023.

Conference Papers

[3] **Qishuang Fu**, Dan Lin, Yiyue Cao, Jiajing Wu, "Does Money Laundering on Ethereum Have Traditional Traits?", *IEEE International Symposium on Circuits and Systems (ISCAS)*, Monterey, USA, May 2023.

[4] **Qishuang Fu**, Dan Lin, Jiajing Wu, "Bigger Than We Thought: The Upbit Hack Gang", *The International Conference on Mathematical Research for Blockchain Economy (MARBLE)*, London, UK, Jul. 2023.

[5] Dan Lin, Ziye Zheng, **Qishuang Fu**, Jiajing Wu, "Cross-chain Transaction Association Using DeFi Messagepassing Mechanism", *CCF China Service Conference*, Beijing, China, Oct. 2023.

Patent

[6] Jiajing Wu, **Qishuang Fu**, et al., "Account data processing methods, devices, computer equipment and storage media", CN115358827A. 2022.

RESEARCH EXPERIENCE

Account Risk Rating Framework on Ethereum[1] Jan 2021 – Aug 2022

- Developed a general framework for assessing account risk on Ethereum, which integrates a metric for measuring suspiciousness that can be adapted to detect various illicit activities.
- Conducted a detailed analysis and visualization of metrics related to normal and abnormal accounts, along with a chain of suspicious transactions.

Collection and Analysis of Money Laundering Dataset[2] Sep 2022 – Jun 2023

- Collected money laundering dataset of five prominent security incidents on Ethereum using TPP-based AML tracking algorithm.
- Drawn word cloud of the service providers on money laundering datasets and analyzed the evolution of service providers.

Analysis of Money Laundering Traits On Ethereum[3] Aug 2022 – Nov 2022

- Conducted an in-depth analysis of money laundering activities on Ethereum, utilizing a representative security event from Upbit Exchange as a case study.
- Summarized five key traits of money laundering accounts on Ethereum to establish a foundation for effective detection.

Detection of Upbit Hack Gang[4] **Jan 2023 – Apr 2023**

- Constructed a rough suspicious money laundering transaction network by crawling downstream transactions of 815 accounts marked as Upbit hacks.
- Designed a suspiciousness indicator for money laundering and modified a risk assessment model to assess the money laundering risk of accounts so as to refine a more accurate gang.

Cross-chain Transaction Pairs Trace[5] **Mar 2023 – Jun 2023**

- Extracted motif and function feature of transactions on three bridges and proposed a cross-chain deposit transaction detection algorithm.
- Transmitted deposit transaction data from the source chain to collaborators to identify withdrawal transaction pairs on the target chain.

AWARDS & SCHOLARSHIPS

Awards

- Second Prize in CCF & ATEC the First College Students' Blockchain Security Technology and Innovative Application Competition (Top 5%) 2023
- Outstanding Undergraduate in Liaoning Province (Top 1%) 2021
- Excellent Undergraduate Thesis at Dalian University of Technology (Top 2%) 2021
- Second Prize in Zhangda Cup Market Research and Analysis Competition 2020

Scholarships

- First Class Scholarship at Sun Yat-sen University (Top 20%) 2021 – 2023
- NOK First-class Scholarship (Top 10%) 2020
- Study Scholarship at Dalian University of Technology (Top 15%) 2020
- National Undergraduate Scholarship (Top 1%) 2019

EXTRACURRICULAR

Blockchain Security Competition **Sep 2022 – Feb 2023**

- Designed five competitive functions for XTracer by analyzing blockchain tracking products.
- Tested XTracer and provided feedback to ensure the reliability of the system.
- Presented XTracer to contribute to a wider research community in blockchain security.

Volunteer Experience

- Community Service Assistant in Dalian - Outstanding Volunteer Mar 2017 – Jan 2019
- Volunteer Teacher in Qinghai - Dalian Advanced Volunteer Team Mar 2017 – Jan 2019

SKILLS

- Programming: Python, LaTex, Git, C/C++
- Languages: Native in Mandarin Chinese, proficient in English (TOEFL: 94)