

# Wuqi ZHANG

Also known as William Aaron Cheung

Ph.D. Candidate in Computer Science and Engineering

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I am currently a Ph.D. candidate supervised by professor Shing-Chi Cheung at The Hong Kong University of Science and Technology (HKUST) with a research focus : software engineering, especially in software testing and analysis. As a member of the CASTLE Research Group at HKUST, it is very nice to work with a professional and very kind professor, as well as a group of innovative researchers.

## 🎓 EDUCATION

2019 - Present	<b>Ph.D. in Computer Science and Engineering</b> CGA : 3.933/4.3 The Hong Kong University of Science and Technology, Hong Kong.
2015 - 2019	<b>B.Eng. in Computer Science and Technology</b> GPA : 4.2149/5 (Rank : 1/250), Outstanding Graduates Northeastern University, China

## 💡 RESEARCH INTERESTS

RESEARCH FOCUS	Software Engineering, Software Testing, Program Analysis
APPLICATION TO	Blockchain, Smart Contracts, Decentralized Applications
OTHER INTERESTS	Web Fingerprinting, Deep Learning System Testing

## 📖 PUBLICATIONS

2022	<b>Front-Running Attack Benchmark Construction and Vulnerability Detection Technique Evaluation</b>
Preprint	Wuqi Zhang, Lili Wei, Shing-Chi Cheung, Yepang Liu, Shuqing Li, Lu Liu, and Michael R. Lyu arXiv:2212.12110
2022	<b>Surakav : Generating Realistic Traces for a Strong Website Fingerprinting Defense</b>
Conference	Jiajun Gong, Wuqi Zhang, Charles Zhang, Tao Wang In Proceedings of the 43rd IEEE Symposium on Security and Privacy (IEEE S&P 2022), May 23-26, 2022, San Francisco, United States.
2021	<b>Fast Test Input Generation for Finding Deviated Behaviors in Compressed Deep Neural Network</b>
Preprint	Yongqiang Tian, Wuqi Zhang, Ming Wen, Shing-Chi Cheung, Chengnian Sun, Shiqing Ma, Yu Jiang arXiv:2112.02819
2021	<b>WDefProxy : Modularly Implementing and Empirically Evaluating Website Fingerprinting Defenses</b>
Preprint	Jiajun Gong, Wuqi Zhang, Charles Zhang, Tao Wang arXiv:2111.12629
2021	<b>DArcher : Detecting On-Chain-Off-Chain Synchronization Bugs In Decentralized Applications</b>
Conference	Wuqi Zhang, Lili Wei, Shuqing Li, Yepang Liu, Shing-Chi Cheung In Proceedings of the 29th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE '21), August 23-28, 2021, Athens, Greece.
2021	<b>Characterizing Transaction-Reverting Statements in Ethereum Smart Contracts</b>
Conference	Lu Liu, Lili Wei, Wuqi Zhang, Ming Wen, Yepang Liu, Shing-Chi Cheung In Proceedings of the 34th IEEE/ACM International Conference on Automated Software Engineering (ASE '21), November 14-20, 2021, Melbourne, Australia.
2018	<b>Exploration on the Reform of Laboratory Integrated Management System in Colleges and Universities</b>
Journal	Wuqi Zhang, Xingyu Wang, Yi Sha, Lili Zhang Research and Exploration in Laboratory, 2018, 37(11) : 149-152.

## 🏆 AWARDS

2023	Overseas Research Award
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- 2022 The Hong Kong University of Science and Technology  
**Research Travel Grant**
- 2022 The Hong Kong University of Science and Technology  
**HKUST RedBird Academic Excellence Award**
- 2019 The Hong Kong University of Science and Technology  
**Postgraduate Studentship**
- 2019 The Hong Kong University of Science and Technology  
**Outstanding Graduates of Liaoning Province**
- 2018 Department of Education of Liaoning, China  
**Second-class University Scholarship**
- 2018 Northeastern University, China  
**Excellent Student Award**
- 2017 Northeastern University, China  
**National Scholarship**
- 2017 Ministry of Education of the People's Republic of China  
**First-class University Scholarship**
- 2017 Northeastern University, China  
**Pacemaker to Excellent Student Award**
- 2016 Northeastern University, China  
**National Scholarship**
- 2016 Ministry of Education of the People's Republic of China  
**First-class University Scholarship**
- 2016 Northeastern University, China  
**Pacemaker to Excellent Student Award**
- 2016 Northeastern University, China

## TEACHING

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- 2021-2022 Fall Teaching Assistant for COMP3021 Java Programming, HKUST
- 2020-2021 Spring Teaching Assistant for COMP5111 Fundamentals of Software Analysis, HKUST
- 2020-2021 Fall Teaching Assistant for COMP3021 Java Programming, HKUST

## VISITING EXPERIENCE

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- Research 2019** | **The Hong Kong University of Science and Technology, HONG KONG, China**
- > Topic : Vulnerability Detection in Ethereum Smart Contracts
  - > Adviser : Professor Shing-Chi Cheung
  - > March, 2019 - May, 2019
- Research Internship
- Research 2018** | **North Carolina State University, NORTH CAROLINA, U.S.A.**
- > Topic : Multiple Peaks Phenomenon in Non-Markovian Epidemics on Multilayer Networks
  - > Adviser : Professor Huaiyu Dai
  - > July, 2018 - August, 2018
- Summer Research Program

## WORK EXPERIENCE

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- Engineering 2020-2021** | **Hong Kong Applied Science and Technology Research Institute (ASTRI), HONG KONG, China**
- This is a joint project between ASTRI and Crypto-FinTech Lab of HKUST to develop the next-generation distributed file system based on blockchain and distributed computing technologies.
- > October 2020 - June 2021
- Blockchain FinTech Smart Contracts

- Engineering

2018-2019

Shenyang Wuzhi Technology Co., Ltd., LIAONING, China

The company was funded by alumni of Northeastern University. The work in this company was to develop the back-end server of the mobile application that automatically translates sign language to Chinese.

> October 2018 - January 2019

RESTful ServiceSever-side Development
- Engineering

2015-2019

Publicity Department of Northeastern University, LIAONING, China

The work is to continuously maintain various University websites as one of the technical leaders in the student association.

> October 2015 - June 2019

Web DevelopmentRESTful Service