

Changming Liu

PhD Student, Northeastern University Boston, MA

Contact Information

Address: 25 Pearl St, Malden, MA, 02148

Github: <https://github.com/Lawliar>

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Education

Northeastern University

PhD student of Cybersecurity in Khoury College of Computer Science

Advised by Prof Long Lu

Boston, USA

2019 - Now

Huazhong University of Sci & Tech

M.Eng student of Computer Architecture in School of Computer Sci & Tech

Advised by Prof Hai Jin

Wuhan, China

2016 - 2019

Huazhong University of Sci & Tech

B.Eng student of Information Security in School of Computer Sci & Tech

Advised by Prof Deqing Zou

Wuhan, China

2012 - 2016

Selected Publications

- Changming Liu, Yaohui Chen, and Long Lu. 2021. **KUBO: Precise and Scalable Detection of User-triggerable Undefined Behavior Bugs in OS Kernel**. In Proceedings of the Network and Distributed System Security Symposium(NDSS 2021), Virtual Conference, 21st February - 25th February 2021. (To appear)
- Peng Luo, Deqing Zou, Yajuan Du, Hai Jin, Changming Liu, and Jinan Shen. 2020. **Static detection of real-world buffer overflow induced by loop**. Computers & Security, Volume 89, 2020, 101616, ISSN 0167-4048.
- Changming Liu, Deqing Zou, Peng Luo, Bin B. Zhu, and Hai Jin. 2018. **A Heuristic Framework to Detect Concurrency Vulnerabilities**. In Proceedings of the 34th Annual Computer Security Applications Conference (ACSAC '18). Association for Computing Machinery, New York, NY, USA, 529541
- Xiaojing Ma, Changming Liu, Sixing Cao, and Bin B. Zhu. 2018. **JPEG Decompression in the Homomorphic Encryption Domain**. In Proceedings of the 26th ACM international conference on Multimedia (MM '18). Association for Computing Machinery, New York, NY, USA, 905913.

Experience

Research Assistant

Khoury College, Northeastern University

Advisor: Prof. Long Lu Sept 2019 - Now

Research Intern

Software analytics group, Microsoft Research Asia

Mentor: Dr. Bin.B.Zhu Sept 2018 - March 2019

- Designing and implementing scalable fuzzing approach for concurrency bugs.

Research Intern

Software analytics group, Microsoft Research Asia

Mentor: Dr. Bin.B.Zhu Sept 2018 - March 2019

- Integrating deep learning-based object detection framework into outlook's anti-phishing system.

Research Assistant

Computer Science Department, University of Hong Kong

Advisor: Prof. S.M.Yiu July 2015 - Sept 2015

- Research paper reading and implementation about privacy-preserving genome applications.

On-going projects

- Rehosting firmware with smart symbolic execution to find more bugs in the firmware using angr.

Honors & Awards

Excellent Intern Award(Top 20%)	Microsoft Research Asia,2019
National Scholarship	Ministry of Education of China, 2018
Excellent Intern Award(Top 20%)	Microsoft Research Asia, 2018
Graduate with honor	Huazhong University of Sci & Tech, 2016
Merit Student	Huazhong University of Sci & Tech, 2015
National Scholarship	Ministry of Education of China, 2015

Misc

Visits:	Presentation in ACM MM'18; Talk in Korea University(Oct, 2018)
Programming:	Python(practiced);C/C++(practiced);Ocaml(familiar);Java(Basic);
Hobbies:	Huge interest in badminton and violin.
Bug Hunt:	Find 14 new undefined behaviors bugs in the Linux kernel that are either acknowledged or patched.