Jilin Hu

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1999-08

EDUCATION

Zhejiang University `QS Top100`   Sep 2021
Ph.D. (expected Jun 2026) in Computer Science   Hangzhou, China
Advisor: Yongwang Zhao

Xi'an Jiaotong University `Double 1st-Class`   Sep 2017
B.S. in Physics (Honors Program)   Xi'an, China

INTERESTS

Formal verification, Theorem proving, Large language models, Proof automation, Operating systems, Trusted Execution Environment

RESEARCH PUBLICATIONS

Jilin Hu, Fanlang Zeng, Yongwang Zhao, Zhuoruo Zhang, Leping Zhang, Jianhong Zhao, Rui Chang, Kui Ren, "*ProveriT: A Parameterized, Composable, and Verified Model of TEE Protection Profile*," in IEEE Transactions on Dependable and Secure Computing, doi: 10.1109/TDSC.2024.3375311.

Zhuoruo Zhang, **Jilin Hu**, Chenyang Yu, Rui Chang and Yongwang Zhao, "*VeriReach: A Formally Verified Algorithm for Reachability Analysis in Virtual Private Cloud Networks*," 2023 IEEE International Conference on Web Services (ICWS), Chicago, IL, USA, 2023, pp. 71-77, doi: 10.1109/ICWS60048.2023.00022.

Jilin Hu, Yongwang Zhao, Shuangquan Pan, "*Probing the Security of Real-World TEEs via Formal Verification*". (under review)

PROFESSIONAL EXPERIENCES

Student Researcher, Zhejiang University, China   Jan 2024
- I am currently working on AI for Formal methods. I focus on using Large language models to automate the specification and verification in the trusted execution environment (TEE).

Project leader, Zhejiang University, China   Dec 2022 - Dec 2023
- I led some master's students in formally specifying and verifying a commercial TEE from Xiaomi Corporation.
- We used Isabelle/HOL to ensure its information-flow security and assisted Xiaomi in requiring the CC EAL 5+ certificate.

Student Researcher, Zhejiang University, China   May 2022 - Nov 2022
- I focused on the correctness of the GlobalPlatform protection profile of the TEE. I used Isabelle/HOL to formally specify it and prove its rationale. I also reported bugs to GlobalPlatfom.

Research assistant, Zhejiang University, China   Dec 2021 - Apr 2022
- I worked with the system security group on verifying the reachability analysis algorithm on t'he virtual private cloud. I also used Tamarin to verify a small protocol.

Research assistant, Xi'an Jiaotong University, China   Feb 2019 - Jul 2019
- I worked with the AI security lab advised by Professor Chao Shen. I focused on neural network model stealing using decision boundaries.

EXCHANGE EXPERIENCE

Exchange student, Michigan State University, US   Aug 2019 - Jan 2020
- I went to Michigan State University and attended the operating system course as a physical student. I got a full grade in all my courses.
- I got the National Scholarship of China for my high GPA and full financial support for studying abroad.
- I am good at English and can communicate with people fluently. My TOEFL score is 92.