

# Jilin Hu

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1999-08

## EDUCATION

<b>University of Illinois Urbana-Champaign</b> <span>QS Top100</span>	Sep 2024 - Sep 2025
Visiting Scholar in Computer Science Advisor: Talia Ringer	
<b>Zhejiang University</b> <span>QS Top100</span>	Sep 2021 - Jun 2026
Ph.D. (expected Jun 2026) in Computer Science Advisor: Yongwang Zhao	Hangzhou, China
<b>Xi'an Jiaotong University</b>	Sep 2017 - Jun 2021
B.S. in Physics (Honors Program)	Xi'an, China

## INTERESTS

Formal verification, Automatic theorem proving, Large language models, Proof synthesis, Operating systems, Specification synthesis, 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.

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 which are confirmed by GlobalPlatform.

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.

I verified a reachability analysis algorithm on the Huawei virtual private cloud using Isabelle. I also used Tamarin to verify a small protocol.

**Jilin Hu**, Yongwang Zhao, "*Tacco: A Framework for Ensuring the Security of Real-World TEEs via Formal Verification*" (under review)

## PROFESSIONAL EXPERIENCES

<b>Research assistant, University of Illinois Urbana Champaign, U.S.</b>	Jan 2024
<ul style="list-style-type: none"><li>I am currently working on LLM for Formal methods. I focus on using large language models to automatically generate the specification in Isabelle.</li><li>I also do research on automatic theorem proving. Specifically, I use LLM to aid the proof synthesis in Isabelle to mitigate the proof burden.</li></ul>	
<b>Project leader, Zhejiang University, China</b>	Dec 2022 - Dec 2023
<ul style="list-style-type: none"><li>I led some master's students in formally specifying and verifying a commercial TEE from Xiaomi Corporation.</li><li>We used Isabelle/HOL to ensure its information-flow property and assisted Xiaomi in requiring the CC EAL 5+ certificate.</li></ul>	
<b>Research assistant, Xi'an Jiaotong University, China</b>	Feb 2019 - Jul 2019
<ul style="list-style-type: none"><li>I worked with the AI Security lab advised by Professor Chao Shen. I focused on model stealing using the neural network's decision boundaries.</li></ul>	

## SKILLS LIST

**English:** I went to Michigan State University as an exchange student. I can communicate with people fluently.

**Programming Language:** I use Isabelle and Python fluently. I also use C/C++.