

# ZICHAO ZHANG

✉ zichaoz@andrew.cmu.edu 🌐 www.andrew.cmu.edu/user/zichaoz

## RESEARCH INTEREST

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I apply formal methods tools to construct, test, and verify secure systems. I am particularly interested in compositional verification and bridging security guarantees across different levels of the software development stack. My recent work focuses on trusted execution environments and cryptographic protocols.

## EDUCATION

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**Carnegie Mellon University** Pittsburgh, PA  
Ph.D. in Electrical and Computer Engineering 2019 – Present  
Advisors: Limin Jia and Corina Păsăreanu

**Pennsylvania State University** State College, PA  
B.S. (Hons) in Computer Engineering 2015 – 2018  
GPA: 3.97 / 4.0

## EMPLOYMENT

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**Applied Scientist Intern**, Amazon Web Services (Privacy & Security Automation) New York, NY  
Mentor: Subarno Banerjee Summer 2024  
Topic: Guided symbolic execution for automatic dataflow triaging

**Graduate Research Assistant**, Carnegie Mellon CyLab Pittsburgh, PA  
Advisors: Limin Jia and Corina Păsăreanu 2019 – Present

## PUBLICATIONS

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- **ProInspector: Uncovering Logical Bugs in Protocol Implementations.** Zichao Zhang, Limin Jia, and Corina Păsăreanu. In *European Symposium on Security and Privacy (EuroS&P)*, 2024.
- **Towards End-to-End Verified TEEs via Verified Interface Conformance and Certified Compilers.** Farzaneh Derakhshan, Zichao Zhang, Amit Vasudevan, and Limin Jia. In *Computer Security Foundations Symposium (CSF)*, 2023.
- **Learning Assumptions for Verifying Cryptographic Protocols Compositionally.** Zichao Zhang, Arthur Azevedo de Amorim, Limin Jia, and Corina Păsăreanu. In *Formal Aspects of Component Software (FACS)*, 2021.
- **Automating Compositional Analysis of Authentication Protocols.** Zichao Zhang, Arthur Azevedo de Amorim, Limin Jia, and Corina Păsăreanu. In *Formal Methods in Computer Aided Design (FMCAD)*, 2020.

## TEACHING EXPERIENCE

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**Introduction to Information Security**, Carnegie Mellon University Fall 2021, Spring 2023  
Teaching Assistant for Prof. Limin Jia and Prof. Hanan Hibshi

**Microprocessors and Embedded Systems**, Penn State University Fall 2018  
Teaching Assistant for Prof. Kyusun Choi

## PROFESSIONAL SERVICE

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- **Artifact Evaluation Committee** member for Principles of Programming Languages 2023 (POPL 2023), Jan. 2023.
- **Student volunteer** for Computer Security Foundations Symposium 2020 (CSF 2020), Jun. 2020.