

Zhe YE

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RESEARCH INTEREST

Scalability and security of decentralized systems and applications.

EDUCATION

University of California, Berkeley, EECS Department
Ph.D. Student, Computer Science Advisor: Prof. Dawn Song

Berkeley, CA
2022 – Expected 2027

ShanghaiTech University, School of Information Science and Technology
Bachelor of Engineering, Computer Science and Technology

Shanghai, China
2018 – 2022

University of California, Berkeley, EECS Department
Undergraduate Extension Student, GLOBE Program, Computer Science

Berkeley, CA
Aug., 2021 – May, 2022

HONORS AND AWARDS

UC Berkeley EECS Departmental Fellowship
Undergraduate Scholarship in ShanghaiTech University

2022
2019

PUBLICATIONS

1. **Ye, Z.***, Misra, U.*, Cheng, J., Zhou, W., and Song, D. (2023). Specular: Towards Secure, Trust-minimized Optimistic Blockchain Execution. *To appear in 45th IEEE Symposium on Security and Privacy*.
2. Qin, K.*, **Ye, Z.***, Wang, Z., Li, W., Zhou, L., Zhang, C., Song, D., and Gervais, A. (2023). Towards Automated Security Analysis of Smart Contracts based on Execution Property Graph. *In submission*.

SELECTED PROJECTS

Specular

2022 – Present

- Specular is an L2 system designed to scale Ethereum securely, with minimal additional trust assumptions. It is an EVM-native optimistic rollup, relying on existing Ethereum infrastructure both to bootstrap protocol security and to enable native compatibility for all existing Ethereum applications & tooling.
- I worked on fraud proof protocol design, bridging protocol design, rollup architecture design, and implementation and deployment of both L1 contracts and L2 nodes with peripheral services like the bridging application.

Clue

2023

- Clue is a versatile dynamic analysis framework specifically designed for the Ethereum Virtual Machine (EVM). This comprehensive framework focuses on tracking contract executions, capturing valuable runtime information, while introducing and employing the Execution Property Graph (EPG) to propose a unique graph traversal technique that swiftly detects potential smart contract attacks.
- I worked on execution property graph model design and implementation, traversal (i.e. attack detection) design and implementation, and evaluation.

TEACHING EXPERIENCE

ShanghaiTech University

- **CS110 Computer Architecture I** *Teaching Assistant* March, 2021 – June, 2021
- **ARTS1303 Unity Game Development** *Teaching Assistant* July, 2020 – Aug., 2020
- **SI100B Introduction to Information Science and Technology** *Teaching Assistant* March, 2020 – June, 2020

MISCELLANEOUS

Language: Chinese(Native), English(Fluent); CET-6, TOEFL: 105