# JESSE CHEN

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PhD Student ◇ University of Arizona ◇ Tucson, AZ

## EDUCATION

**University of Arizona**

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|---|---|
| PhD in Computer Science | Expected May 2027 |
| Master's of Science in Mechanical Engineering | Dec 2023 |
| Bachelor's of Science in Computer Science & Mechanical Engineering | Jan 2017 - May 2022 |
| Minor in Engineering Management | GPA: 3.50+/4.00 |

## PUBLICATIONS (UNDERLINE INDICATES FIRST AUTHOR)

1. **[IEEE S&P 26]** Jesse Chen, Rubin Yuchan Yang, Ahmad Musa, Syed Rafiul Hussain, Omar Haider Chowdhury, Sazzadur Rahaman. *Secret State Leakage Attacks and their Impacts on EMV Contactless Payment Apps*. IEEE Symposium on Security and Privacy. 2026.
2. **[FSE 25]** Tanner Finken, Jesse Chen, Sazzadur Rahaman. *On the Characteristics and Impacts of Protestware Libraries*. Proceedings of the ACM on Software Engineering (FSE). 2025.
3. **[FSE 24]** Jesse Chen, Dharun Anandayuvaraj, James C. Davis, Sazzadur Rahaman. *On the Contents and Utility of IoT Cybersecurity Guidelines*. Proceedings of the ACM on Software Engineering (FSE). 2024.

## WORK EXPERIENCE

**Graduate Research Assistant** — Aug 2022 - present
Department of Computer Science, Security - Privacy - Reliability Lab — Tucson, AZ

**- Analysis of the Contactless Payment Protocol (Python, Java, JEB)**

- Formally verified the EMV contactless protocol to detect attacks on security properties using the Tamarin cryptographic prover
- Developed an static and dynamic analysis tool (EMVResilienceChecker) that detects the usage of 7 Android app protection techniques in payment apps: TEE usage, root checking network integrity, anti-repackaging, anti-hooking, anti-debugging, and code obfuscation
- Reversed engineered contactless payment Android apps to extract secret data elements, demonstrating a controlled attack on a mobile payment application in an isolated environment

**- Protestware Libraries (Python)**

- Collected 163 protestware using Internet search and GitHub API
- Used OpenAI and Gemini API to filter 4,000 READMEs containing protesting content from 900,000 READMEs
- Collected and qualitatively analyzed 97 sentiment comments using Reddit API

**- IoT Security Guidelines (Python, JavaScript, HTML, CSS)**

- Created a novel taxonomy of IoT security recommendations from 25 guidelines
- Visualized taxonomy with GoJS into a tree with multiple features and data encodings

**Graduate TA**
Department of Computer Science — Tucson, AZ

- CSC 345 - Analysis of Discrete Structures (Java) — Spring 2022
- CSC 337 - Web Development (MERN stack) — Fall 2023, Spring 2025
- CSC 110 - Intro to Computer Programming I (Python) — Summer 2025
- CSC 352 - Systems Programming and Unix (C) — Spring 2026
- CSC 465 - Reverse Engineering vs. Software Protection (Ghidra, x86, C) — Spring 2026

**Graduate RA Software Developer (JavaScript, React-Redux, AWS)** Oct 2022 - Jan 2023
University of Arizona Administration CatCoin Project Tucson, AZ

- Implemented shopping cart frontend using React and backend using AWS DynamoDB

## AWARDS

**Outstanding Poster Award**, Department of Computer Science, University of Arizona 2026
**Excellence Award**, College of Science, University of Arizona 2026
**Graduate Scholarship Award**, Department of Computer Science, University of Arizona 2026

## GRANTS

**Student Travel Grant**, IEEE Symposium on Security and Privacy ($1500) 2026
**Department of Computer Science Travel Grant**, University of Arizona ($1500) 2026
**Student Travel Grant**, ACM SIGSOFT CAPS ($500) 2024
**Department of Computer Science Fellowship**, University of Arizona ($5,000) 2023
**Student Travel Grant**, IEEE Symposium on Security and Privacy (registration waiver) 2021

## SKILLS

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|---|---|
| **Languages** | Python, Java, JavaScript, HTML, CSS, C, C++, SQL |
| **Technologies** | Tamarin, Ghidra, JEB, MongoDB, Node.js |
| **Natural Languages** | English (fluent), Mandarin (fluent) |