

EDUCATION

Rice University, Houston, TXB.S., [Computer Science](#) with a minor in Mathematics

May 2024

- 3.68/4.00 Cumulative GPA

PROFESSIONAL
EXPERIENCE**Rice University**, Houston, TX

Undergraduate Research Assistant

August 2023–Present

- Working with Dr Nathan Dautenhahn on analyzing the information leakage of containers through kernel data structures.

Undergraduate Research Assistant

March–August 2022

- Worked with Dr Dan Wallach on a [Typescript implementation](#) of Microsoft's ElectionGuard SDK for Enhanced Voting.
- Used *fp-ts* and *io-ts* to implement robust codecs to achieve compatibility with a reference implementation.
- Wrote property-based tests and unit tests, bringing coverage to over 90% coverage. Used *fast-check* and *jest*.
- Contributed new CLI commands and bug fixes to the open source [electionguard-python](#) implementation.

Max Planck Institute for Security and Privacy, Bochum, Germany

Software Security Research Intern

May–August 2023

- Worked with Dr Marcel Böhme on quantifying information leakage of programs using statistical methods.
- Applied methods from ecology to develop a method to estimate the mutual information of a program's output and its input.

RiceApps, Houston, TX

Tech Lead

August 2022–May 2023

- Led a team of eight developers to build a Flutter app for in-community music sharing.

Software Developer

August 2021–May 2022

- Worked as a full-stack developer on an agile team working on the [Rice Carpool](#) React app.
- Made over 15 pull requests fixing issues across the stack, including GraphQL query performance improvements.
- Implemented four new features, including email notifications and a field to track ride details.

Cummins Inc., Indianapolis, IN

Software Engineering Intern

June–August 2022

- Worked on the Cummins E-Commerce platform as part of the Sales and Service team during an improvement sprint.
- Fixed issues with the product search system, including incorrect handling of edge-case queries and missing results.
- Enhanced the product checkout experience, improving accessibility and resolving product order-related bugs.
- Participated in code reviews, quality assurance, and DevOps, performing thorough testing and managing deployments.

Pashi, Remote

Software Engineering Intern

May–July 2020

- Built a prototype for Pashi’s interactive, visual programming language with JQuery and HTML5 Canvas.
- Worked with a REST API that controlled production lines to connect user-written code to real-world effects.
- Explored React and vanilla JavaScript as alternate stack choices by creating interactive, minimally viable demos.

TEACHING
EXPERIENCE

Rice University, Houston, TX

Instructor

- Introduction to CTFs (COLL 123) **Spring 2023**

Teaching Assistant

- Introduction to Concurrent Program Design (COMP 318) **Fall 2023**
- Systems Software (COMP 621) **Summer 2023**
- Introduction to Computer Systems (COMP 321) **Fall 2022, Spring 2023**

LEADERSHIP AND
OUTREACH

RiceApps OSA Mentor, 2022

- Mentored six students as part of RiceApps Open Source Accelerator and introduced them to full-stack development.

Rice Information Security Club

- President **Fall 2023–Present**
- Co-founder and Vice President **Spring 2023**

HackRice 13 CTF, Co-organizer and challenge developer

Fall 2023

- Planned and organized a 36-hour capture-the-flag competition for over 30 participants.

Rice Cubing Club

- Treasurer, 2023

AWARDS

- Rice Undergraduate Scholars Program Grant **2023–24**
- Second Place Team, HackRice 12 **September 2022**
Built an end-to-end encrypted platform to connect students with health resources.
- US-Canada Top 15 Team, CSAW CTF ’22 Qualifiers **September 2022**
Solved over ten capture-the-flag challenges in 48 hours.
- Second Place Team, Education Track, HackRice 11 **September 2021**
Built a tool to generate lecture summaries from audio lectures.