

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 and Seongmin Lee on quantifying information leakage of programs using statistical methods.
- Applied methods from ecology to estimate the amount of information leaked by a program's observable outputs about its secret values, given a small number of program execution samples.
- Implemented a prototype of our method in Python and compared its mutual information estimates to those of state-of-the-art methods.

RiceApps, Houston, TX

Tech Lead

August 2022–May 2023

- Led a team of eight developers to build a cross-platform app for in-community music sharing.
- Helped developers use Flutter to build the cross-platform frontend and NodeJS with TypeScript to develop the backend.
- Prototyped backend routing and database schema design using *Koa* and *TypeORM*.

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 <ul style="list-style-type: none"> Fixed issues with the E-Commerce 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 <ul style="list-style-type: none"> 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.
SUBMITTED CONFERENCE PAPERS	[1] S. Lee, S. Minocha, and M. Böhme, “[redacted for review],” in <i>IEEE International Conference on Software Testing, Verification and Validation (ICST) 2024</i> , Submitted.
TEACHING EXPERIENCE	Rice University , Houston, TX Instructor <ul style="list-style-type: none"> Introduction to CTFs (COLL 123) Spring 2023 Teaching Assistant <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Mentored six students as part of RiceApps Open Source Accelerator and introduced them to full-stack development. Rice Information Security Club <ul style="list-style-type: none"> President Fall 2023–Present Co-founder and Vice President Spring 2023 HackRice 13 CTF, Co-organizer and challenge developer Fall 2023 <ul style="list-style-type: none"> Planned and organized a 36-hour capture-the-flag competition for over 30 participants.
AWARDS	<ul style="list-style-type: none"> 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.