

## Education

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**University of Virginia, College of Arts and Sciences** | Charlottesville, VA  
B.A., Computer Science, Economics – GPA: 3.86 – Computer Science GPA: 4.00

Aug 2022–May 2026

## Internship Experience

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**Associate Software Engineer** | WiseTech Global | Sydney, Australia

May 2024–Aug 2024

- Engineered solutions for 18 work items in the Business Intelligence team, including 3 critical defect patches
- Led technical design and implementation of improvements to internal processes in SQL Server change data capture, facilitating a 30x efficiency gain in enterprise data warehouse procedures
- Constructed denormalized tables to facilitate queries of aggregated data tailored to customer needs, including SQL scripts for operational data extraction, transformation and loading into an enterprise data warehouse

## Work Experience

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**Research Assistant** | University of Virginia, LESS Lab | Charlottesville, VA

Aug 2024–Present

- Develop techniques and tools for building and verifying complex, safety-critical software systems
- Lead research and development of SAT solvers utilizing multi-armed bandit algorithms to increase efficiency in a critical decision-making heuristic, with a particular focus on C and C++ optimization
- Collaborate to engineer graph neural networks/LLMs leveraging SAT formula probabilistic backdoor data to predict significant variables in these formulas and accelerate solving

**Head Teaching Assistant** | University of Virginia, Computer Science | Charlottesville, VA

Mar 2024–Present

- Coordinate between 2 professors, 30+ TA's, and 600+ students to lead delivery of Intro to Programming content
- Direct at least 1 lab per week, reinforcing learning with live Python coding demonstrations for 70+ students
- Prepare and present interactive lectures for 100+ students teaching essential concepts, UX/UI and game design

**Teaching Assistant** | University of Virginia, Computer Science | Charlottesville, VA

Aug 2024–May 2025

- Enhance students' learning in Computer Systems and Organization II, and Discrete Mathematics, through 3 weekly hours of class, office hours and lab, guiding to individual understanding
- Craft and review exam questions synthesizing multiple topics to test limits of students' knowledge

## Technical Projects and Skills

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**Multicore Operating System** | Technologies: C, ARM64 Assembly, QEMU, Raspberry Pi

Jan 2025–May 2025

- Build from bare-metal to a rich, multicore OS supporting concurrent applications and a filesystem
- Execute on hardware with support for I/O devices including keyboard input, video display, and sound output

**sipc Compiler** | Technologies: C++17, LLVM, ANTLR4, Catch2

Aug 2024–Dec 2024

- Implemented extensions to the tipc compiler including iterator and range-style loops, booleans, and arrays
- Researched and applied multiple LLVM optimization passes, resulting in up to 9x faster benchmark performance
- Created 200+ unit and system tests, achieving 100% coverage of 1500+ new lines of C++ and LLVM code

**Programming Skills:** C#/ .NET, C++, C, SQL/Microsoft SQL Server, Java, Python, x86 & ARM64 Assembly, Bash/Unix, LLVM, JavaScript, HTML/CSS, Git and GitHub, R, VBA, Lua, Julia

## Leadership and Service

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**Chief Operations and Outreach Officer** | Community Honor Fund | Charlottesville, VA

Mar 2023–Jan 2025

- Empowered Charlottesville citizens with low-interest loans (totaling up to \$1,000) and financial counseling
- Led team of 8 in client acquisition and onboarding, community outreach, and local partnership development
- Developed and maintained WordPress website with custom CSS styling to promote organization's mission