

Education

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

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

Academic Experience

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 and LLMs analyzing SAT formula structure, and design and implement novel techniques that efficiently leverage these models' predictions to accelerate SAT solver performance by 1.15x

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

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, CUDA, 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

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