Ammar Ratnani

ammar.ratnani@gmail.com
github.com/ammrat13

Education

Georgia Institute of Technology, Atlanta, GA　　　　　　　　　　　　　　　Aug. 2019 - May 2023 (Expected)
- Bachelor of Science in Computer Science
- *Concentrations:* Systems & Architecture and Theory
- *GPA:* 4.0 / 4.0

Skills

Proficient:　　　Java, C, Linux
Intermediate:　　C++, Go, Python, HTML, JavaScript, Angular, Git
Beginner:　　　　Perl, NumPy, PyBullet, AWS, SQL, LaTeX
Coursework:　　　Computer Architecture, Data Structures, Multivariable Calculus

Experience

Software Development Intern | Fraudmarc　　　　　　　　　　　　　　　　　　　May 2020 - Jul. 2020
- Used Test-Driven Development to work heavily on maturing the codebase
- Cut backend test boilerplate by a factor of twelve and reduced average Cypress runtimes three-fold
- Introduced frontend visual testing with Percy to flag uncaught regressions with little to no overhead and few false positives
- Performed general Angular, PostgreSQL, and AWS maintenance
- Gained familiarity in email protocols by reading IETF RFCs

Freelance Tutoring | Introduction to Information Security　　　　　　　　　　　　Jan. 2020 - Apr. 2020
- Instructed a student in this graduate-level computer security course covering common vulnerabilities and their mitigation
- Moved from low- to high-level exploits, going from buffer overflows in C to cryptography in Python to web-based exploitation in JavaScript and PHP

Institute of Electrical and Electronics Engineers | Simulation Team Member　　　　Aug. 2019 - Dec. 2019
- Worked to create Georgia Tech's submission to Southeastcon 2020: a small robot that moves to collect blocks then stacks as many as it can in a particular order
- Collaborated with subteam members to test the design and guidance of the robot
- Integrated custom electronics code in Python with PyBullet to ensure fidelity when simulating rigid- and soft-body interactions

Projects

Gameboy Advance Cross-Compilation　　　　　　　　　　　　　　　　　　　　Apr. 2020 - May 2020
- Compiled a GCC-based toolchain to target the GBA with C and some C++
- Tested by cross-compiling my own game from Georgia Tech's CS 2110
- Became familiar with program initialization on bare-metal targets and used that knowledge to write a C runtime from scratch

LC-3 Preprocessor　　　　　　　　　　　　　　　　　　　　　　　　　　　　Jan. 2020 - Feb. 2020
- Wrote a simple C-style preprocessor in Perl for the LC-3 Assembly language
- Used that framework to write a common header file adding pseudo-instructions for common operations, like subtraction, negation, register testing, and moving data

Cards Against World History　　　　　　　　　　　　　　　　　　　　　　　　Jan. 2018 - Apr. 2018
- Hosted a web-based interface for this card game
- Backed it by a homemade Java server at first then migrated to Node.js