

Ammar Ratnani

(281) 223 2900 | ammar.ratnani@gmail.com
ammrat13.github.io | github.com/ammrat13

Education

Georgia Institute of Technology, Atlanta, GA

May 2023 (Expected)

- Bachelor of Science in Computer Science
- Concentrations: Systems & Architecture and Theory
- GPA: 4.0

Skills

Proficient: C, Linux

Intermediate: C++, Java, Python, JavaScript, Git

Beginner: Docker, Go, Typescript, NumPy, PyBullet, Angular, SQL, TeX

Coursework: Systems and Networks, Data Structures, Algorithms, Honors Linear Algebra

Experience

Teaching Assistant | Intro. Computer Architecture

Aug. 2020 - Present

- Instructed students in this challenging major-specific course, guiding them through Assembly, C, and some C++
- Interacted with students in both one-on-one office hours and group recitations
- Created instructional material for recitations, as well as student assignments: homeworks, quizzes, and the final exam
- Attained a deeper understanding of how computer systems work

Software Engineering Intern | L3Harris

May 2021 - Aug. 2021

- Administered three platforms running C++ applications on embedded Linux
- Refactored firewall setup scripts to reduce duplicate code while ensuring no regressions were introduced in the process
- Initiated a move to multi-user systems, configuring authentication to integrate with both open-source and hand-written PAM modules
- Conquered the unique challenges that come with running in security-critical resource-constrained environments

Software Engineering 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
- Gained familiarity in email protocols by reading IETF RFCs

Projects

Gameboy Advance Cross-Compilation

Apr. 2020 - Jul. 2020

Mar. 2021 - May 2021

- Compiled a GCC-based toolchain to target the GBA with Assembly, C, and some C++
- Tested by cross-compiling my own game from Georgia Tech's CS 2110
- Packaged the toolchain into Docker containers for end-users and for testing in CI/CD
- Became familiar with program initialization on bare-metal targets and used that knowledge to write a C runtime from scratch

Honors and Awards

Third Place in NYU's CSAW CTF Competition

Nov. 2020

- Performed well in the qualifying round and was accepted to the Mad H@tters' team
- Swept the cryptography challenges in the final round, placing us third overall