Aneesh Maganti

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EDUCATION

New York University, Tandon School of Engineering, Brooklyn, NY — Jan 2025
Bachelor of Science, Computer Science — GPA: **3.77**
Relevant Courses: Offensive Security, Computer Architecture, Algorithmic Machine Learning, ML Visualization

SKILLS

Languages C++, Python, Javascript, C#, Java, Bash,
Technologies Next.js, SDL, QT, React, Node, PostgreSQL, Sklearn, Docker, Linux, PyTorch

EXPERIENCE

New York University, Brooklyn, NY, *Teaching Assistant (Machine Learning)* — Sep 2023 - Dec 2023
• Instructed students weekly for machine learning topics of written and programming tasks through office hours
• Graded weekly assignments on the basis of proper algorithm implementation, code correctness and style

NYU Algorithms and Foundations Group, Brooklyn, NY, *Researcher* — Feb 2023 - Sep 2023
• Designed and implemented a diagonal estimator for a dynamic matrix, Deltagonalshift, based on Hutchinson's diagonal estimator and the DeltaShift trace estimation algorithm under Professor Christopher Musco
• Demonstrated Deltagonalshift was more effective than repeatedly running Hutchinson's diagonal estimator.

Corelink, Brooklyn, NY, *Software Engineering Intern* — Sep 2021 - May 2022
• Implemented a C++ UDP network packet splitter to enable researchers to bypass Corelink's MTU limit from 20,000 to 64,000 bytes, increasing maximum throughput by 220%
• Designed Next.js/React interview scheduling platform using Auth0 for authentication and MongoDB backend
• Scripted bash memory tests to determine the effectiveness of RDMA (Remote Direct Memory Access)

Monarc, Dallas, TX, *Software Engineering Intern* — Jun 2021 - Aug 2021
• Developed C# UWP desktop application pages using MVVM (Model-View View-Model) principles to manipulate a robotic football quarterback to throw balls at 5 placements and distances up to 100 yards
• Devised error checks and boot logging to enable remote debugging, improving the stability of the machine

PROJECTS/ACTIVITIES

BUGS Open Source Club President — Sep 2022 - Dec 2023
• Started and currently lead over 50 member club by coordinating biweekly workshop and project coding events to discuss software engineering skills, foster contributions to open source, and create a fun, inclusive CS community.
• Led multiple workshops including discussion of open-source licenses, JavaScript Playwright automation, and an overview of emulation and the internals of C++ Game Boy emulator.
• Developed Next.js-React website NYU Syllabi with Netlify hosting and Docusaurus-based NYU CS Wiki websites

Dot Matrix - Game Boy Emulator — August 2023
• Designed x86 C++ emulator for the Game Boy platform by implementing 255 standard + 240 cb instructions
• Simulated hardware features including registers, graphics (SDL), memory, timers, interrupts, and input handling
• Implementing Pixel Processing Unit timing methods and drawing functionality using SDL graphics library

SentiTweet — March 2023 - April 2023
• Created sentimental tweet generator via modified PyTorch PPLM library with GPT-2 to simulate conversations between Twitter users using natural language generation
• Employed D3.js visualization library to create graph of tweets, their sentiments, and relationships

Chip8 Emulator — August 2022
• Designed x86 C++ interpreter for the Chip8 platform by emulating its 35 standard opcodes and its specifications
• Wrote separate disassembler to obtain assembly instructions from program binary data