Aneesh Maganti

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EDUCATION

New York University, Tandon School of Engineering, Brooklyn, NY — May 2024
Bachelor of Science, Major in Computer Science — GPA: **3.71**
Relevant Courses: Algorithmic Machine Learning, Databases, Linear Algebra, Algorithms, Operating Systems

SKILLS

Languages C++, Python, Javascript, C#, Java, Bash,
Frameworks/Libraries SDL, Qt, React, Node.js, PostgreSQL, DynamoDB, Docker, Windows, Linux

EXPERIENCE

MarketFusion, Los Altos, CA, *Software Engineering Intern* — July 2022 - Sep 2022
• Wrote multiple React.js registration pages and designed the user-creation process, sending server requests via the Axios library to the internal MySQL database, facilitating the creation of multiple user accounts
• Revamped the login authentication system by implementing 4 unique character password checks and a length requirement of 8-20 characters client-side via regular expressions to aid the security of the website

Corelink High-Speed Research Network, Brooklyn, NY, *Academic Research 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%
• Managed 3 students within my team, assisting them with project design and implementation
• Researched Corelink's network architecture and RDMA (Remote Direct Memory Access)/InfiniBand protocol and wrote bash memory tests to determine the protocol's effectiveness for NYU researchers

Monarc, Dallas, TX, *Software Engineering Intern* — Jun 2021 - Aug 2021
• Applied MVVM (Model-View View-Model) principles to develop a C# UWP (Universal Windows Platform) page, letting users 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

Cost Matrix Testing on Matrix Rescaling Optimal Transport Algorithms — Sep 2022 - Dec 2022
• Wrote research paper *Application of Gaussian and Euclidean Cost Matrices to Matrix Rescaling Optimal Transport Algorithms* to understand and analyze the transportation problem and matrix rescaling algorithms
• Implemented large test suite with varying cost matrices, datasets, and matrix scaling algorithms including two newly written greenkhorn variations with alternate row selection schemes using the Python OT library
• Determined row selection in Greenkhorn was not relevant to the runtime, showing pathway for further research

Chip8 Interpreter/Emulator — August 2022
• Designed C++ interpreter for Chip8 platform by emulating all 35 standard opcodes and its specifications (registers, memory, timers) after disassembling program binary data, allowing Chip8 programs to run on an x86 platform
• Employed SDL graphics library to write graphics renderer using SDL textures and handle user input

Alzheimer MRI Detection — May 2022
• Developed classification machine learning algorithm to sort preprocessed set of Alzheimer MRI images
• Tested using Python Sklearn library with three models - a logistic regression, support vector machine and convolutional neural network - with varying levels of regularization to determine which had the greatest accuracy

bkRoad - Amazon Lightsail Containers Hackathon — March 2022
• Won 2nd place in the hackathon
• Wrote Next.js application that allowed users to search, learn details, and loan books using 5 React.js pages
• Handled connections to a SQL Amazon DynamoDB and hosted on an Amazon Lightsail platform