

# Aneesh Maganti

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## EDUCATION

**New York University**, Tandon School of Engineering, Brooklyn, NY May 2024  
Bachelor of Science, Computer Science GPA: **3.75**  
*Relevant Courses:* Visualization in ML, Algorithmic Machine Learning, Networking, Databases, Algorithms, OS

## SKILLS

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

## EXPERIENCE

**New York University**, Brooklyn, NY, *Incoming Teaching Assistant (Machine Learning)* Sep 2023 - Present

**MarketFusion**, Los Altos, CA, *Software Engineering Intern* July 2022 - Sep 2022

- Developed client-side React.js web application registration and shopping pages for online food delivery service
- Facilitated user account creation by sending server requests to internal MySQL database via the Axios library
- Revamped login authentication by implementing 4 unique character password checks and a length requirement of 8-20 characters client-side via regular expressions and server-side to aid the security of the website

**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
- Guided 3 students as a part of my team, assisting them with their project design and implementation
- 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

## RESEARCH

**Dynamic Diagonal Estimation** Mar 2023 - Present

- Designed and implemented a diagonal estimator for a dynamic matrix, DeltagonalShift, based on Hutchinson's diagonal estimator and the DeltaShift trace estimation algorithm
- Developing AdaHessian example via PyTorch to test Deltagonalshift compared to its current diagonal estimator

**Cost Matrix Testing on Matrix Rescaling Optimal Transport Algorithms** Sep 2022 - Dec 2022

- Wrote research paper under Professor Christopher Musco to analyze different matrix rescaling algorithms
- Used POT library to implement test suite with modified rescaling algorithms and varying cost matrices/datasets
- Determined row selection in Greenkhorn was not relevant to the runtime, showing pathway for further research

## PROJECTS/ACTIVITIES

**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

**BUGS Open Source Club President** September 2022 - Present

- Coordinate student outreach, events, workshops, and meetings with other club board members and tech clubs
- Lead discussions/workshops for open source licenses, Playwright automation, and Game Boy hardware/emulation