Andy Zhou

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EDUCATION

The City College of New York - New York, NY May 2023
Bachelors of Engineering Computer Engineering, GPA: 3.6/4.0, Magna Cum Laude
Relevant Coursework: Introduction to Machine Learning, Image Processing, Computer Organization, Operating Systems, Algorithms, Software Design Laboratory, Data Structures, Discrete Mathematics, Assembly Programming

SKILLS

- **Languages:** Python, C/C++, Java, Javascript, MATLAB & Simulink
- **Tools & Frameworks:** Arduino, Raspberry Pi, Linux, Scikit-learn, Altera Quartus, React Native, Google Cloud, Git

EXPERIENCE

Flight Software Engineer Intern **Northrop Grumman** Jun 2022 - Aug 2022

- Developed and debugged flight software for ESPA-Star product line satellites using low level programming language such as C++ and embedded systems programming methodologies
- Enhanced reliability of 9 embedded systems code by files by updating the code, improving functionality in edge cases
- Utilized processor-in-the-loop simulations to test code interaction with hardware and ensure code reliability
- Ensured effective communication and collaboration the team using detailed project reports, feedback, and timeline updates during Agile-based half-weekly meetings

Cyber Security Researcher **Montclair State University** Jun 2021 - Dec 2021

- Generated a software security assessment model that employed software metrics to identify threshold on which file can be interpreted as potentially vulnerable, improving secure software development and coding methodologies
- Programmed a website application using Python, Streamlit, and Google Cloud that evaluated user code and flagged low code metrics based on threshold values containing metrics of 250 total open-source vulnerable and fixed code
- Successfully presented and published research in the IEEE BigData 2021 Special Symposium
- Awarded "Most Entrepreneurial Hack" and "Best Use of Google Cloud" out of 65 total projects at SBUHacks 2021

Software Engineer Intern **HydroCosm** May 2021 - Sep 2021

- Created a fullstack smartphone and telematic user interface prototype containing profiles of nearby hydrogen refueling stations using Java and Android Studio, also directing users to the nearest station via Google Maps/Directions API
- Recorded and analyzed optimization algorithm for calculating relations between number of hydrogen stations and the number of potential users to increase efficiency and load-balance usage using dynamic pricing
- Researched and generated ideas for phone application concepts based on other similar applications

PROJECTS

Software Developer **Productify** Jul 2022 - May 2022

- Produced an universal application that helps people with ADHD/Autism become more productive by having the most commonly used productivity tool all under a single easy to use application
- Applied React Native framework to build a cross-platform application that worked seamlessly on all mobile devices and operating systems, and implemented Google Cloud backend to synchronize user settings under a single account
- Won 1st place in the Zahn Innovation Center Business Competition, awarded a grant of $25,000 for the business

Lead Software Developer **Harvard Pac Bot Robotics Competition** Jun 2021 - April 2022

- Led a 12-member team in designing and building an omnidirectional wheel autonomous robot that mimicked Pac-Man in a 3D environment using A* algorithm with heuristics and UART communication protocols
- Implemented vector-based self-correction algorithms for an omnidirectional-based movement system using C programming language, time-of-flight sensors, and a 9-axis gyroscope
- Demonstrated leadership by implementing Agile methodology and Zenhub, ensured timely and efficient completion of tasks while delegating responsibilities to the CAD, electronics, and coding teams
- Achieved 3rd place overall, surpassing top universities such as Princeton and Tufts University

Personal Project **Fusion Core 3D Printer** Jul 2019 - Dec 2022

- Created a 3D printer aimed for experimentation and high speed. Including capabilities such as CoreXY configuration, dual nozzles, and cooling closure for electronic components
- Designed 3D printer CAD blueprint by using SolidWorks and studying each individual component of a 3D printer