**Nathan Wong**

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**EDUCATION**

**University of Michigan** Ann Arbor, MI

Major: Computer Science Engineering

GPA: 3.89/4.0

Graduation: April 2021

Achievements: Eta Kappa Nu Honor Society, William J. Branstrom Freshman Prize, March 2019; Dean’s List, 2019

**Hunter College High School** New York, NY

Graduation: June 2018; AP Scholar with Distinction

**WORK AND RESEARCH EXPERIENCE**

**Capital One** Richmond, VA

Software Engineering Intern June 2020-August 2020

* Created a web application to compile information from several sources into an easy to navigate site for other engineers
* Designed an intuitive UI with ReactJS that displayed graphs and charts which clearly conveyed essential data at a glance
* Developed an API using NodeJS that established communication with the application and Capital One’s backend systems
* Tested the application using Docker and Jenkins and integrated with other Capital One services using AWS

**University of Michigan** Ann Arbor, MI

Faculty Research: Data Elements from Video using Impartial Algorithm Tools for Extraction (DEVIATE)January 2020

* Researched computer vision algorithms to categorize trends in driving conditions through video analysis
* Designed algorithms that took advantage of color and orientation to properly differentiate frames in a video
* Wrote unit tests to assess the algorithm’s ability to highlight and detect differences between similar images

Faculty Research: Distributed Universal Satellite Technology (DUST)January 2019

* Collaborated with NASA JPL to develop long-range wireless mesh networks of satellites for efficient communication
* Ran latency tests between Linux-based satellites by transmitting messages through a network and checking interference

**New York Life Insurance Company** New York, NY

Technology InternJune 2019 – August 2019

* Wrote SQL queries to organize third party vendor information from over 100 XMLs into readable tables
* Tested API connections between CA Rally Software and HP Quality Center to expose and reduce inconsistencies
* Worked with other interns to design a Windows web application with the goal of improving office collaboration
* Managed a project that eliminated errors between desynchronized data sets and standardized corporate reference data
* Compiled information related to a new predictive model used to modernize insurance sales into an easy to read page

**PROJECTS**

**Forum Post Classifier in C++** April 2019

* Implemented a program that uses machine learning to classify posts on a class forum based on different categories
* Created a custom map object that continuously trained the model with over 1,000 posts and reached a 97% accuracy

**Image Resizing in C++** February 2019

* Created a program that allowed a user to resize an image to different aspect ratios without distorting it
* Utilized a seam carving algorithm to calculate the least important pixels and make adjustments in these areas

**Self Driving Drone in C++** December 2018

* Wrote a program that allowed a drone to autonomously navigate an obstacle course in under 30 seconds
* Collaborated with a team of three other engineers and presented our final product to a board of professors

**SKILLS**

Languages: C++, Python, C, Java, SQL, JavaScript, HTML, R, Matlab, OCaml, Go

Tools: Linux, Ubuntu, React, Node.js, Git, LaTeX, XML, Microsoft Excel, Word, Powerpoint, and Visio

Coursework: Operating Systems, Data Structures & Algorithms, Computer Security, Programming Languages, Computer Organization, Algorithms for Robotics, Discrete Mathematics, Probability & Statistics