Clarence Chan

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Education

University of Maryland ***College Park, MD***
B.S. in Computer Engineering *May 2021*
Relevant Coursework: Object-Oriented Programming, Data Structures, Algorithms, Machine Learning, Computer Architecture, Operating Systems, Computer Systems and Security, Embedded Software Design, Multi-Media Signal Processing, Digital Computer Design, Semiconductor Theory, FPGA Design

Technical Skills

Programming Languages: Python, C/C++, Java, JavaScript/TypeScript, Verilog, Assembly, SQL, OCaml, Rust, R
Frameworks: Google Cloud Platform, Firebase, Node.js, Django, React Native/Expo, Elasticsearch, Apache Spark, Xilinx Vivado
Other Technologies: Unix, FPGA, Vim, GDB, Valgrind, Git/GitHub, MATLAB

Work Experience

Backend Developer Intern ***Dec 2020 to Jan 2021***
Dive Chat *Remote (Austin, TX)*
- Improved push notification load speed by 10% and increased code readability by refactoring all push notification Firebase cloud functions, changing nested JavaScript callbacks to Promises

Software Engineer Intern ***May 2020 to August 2020***
Gardenio *Remote (Austin, TX)*
- Conceptualized new features and capabilities of leveraging weather API data, such as real-time weather alerts and forecasts, for Gardenio's premium garden and plant management mobile app used by 100+ users
- Reduced costs of data transfer by minimizing the number of API requests generated to retrieve and store weather data while developing Firebase cloud functions to retrieve weather alerts based on the user's provided zip-code
- Established a framework for future engineers to continue the development of the weather alert feature, along with other additional features to increase the business value of the product by 20%

Software Developer Intern ***May 2019 to August 2019***
Exaleap *Santa Clara, CA*
- Implemented a searchable e-mail database with 1000+ emails using Elasticsearch hosted with Python/Django for an internal communication platform used by 100+ employees to improve company transparency and productivity
- Designed a sentiment analysis feature for the database search engine which calculates the average sentiment of a keyword to analyze the market's perspective about the company's enterprise IoT platform

Undergraduate Research Fellow ***January 2018 to May 2019***
Deep Brain Neurotechnologies – UMD ECE Department *College Park, MD*
- Collaborated with neuroscientists and other experts at the University of Maryland Medical Center (UMMC) on projects such as a magnetic steering helmet and fMRI analysis with neural networks to research new treatments for neurological diseases such as Parkinson's and Alzheimer's Disease

Projects

Music Visualizer ***May 2021 to Present***
- Developing an OpenGL audio visualizer that generates unique spectra and matches the output with audio elements from an mp3 link or file

Embedded Face Detector System ***April 2021 to May 2021***
- Implemented a Viola-Jones face detection machine learning algorithm in C++ for cross compilation onto a Raspberry Pi
- Worked with a team of 3 other engineers to design a dataflow graph for the algorithm containing a training module to train the data and individual classifier classes to classify the training and testing datasets.