Wesley Hu

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EDUCATION

University of California, San Diego **San Diego**
Bachelor of Science in Computer Engineering *Expected: June 2024*
Relevant Coursework: Advanced Data Structures, Algorithms Analysis, Software Engineering, Systems Programming, Linear Systems, Digital Systems, Web Development, Operating Systems, Computer Arch.

EXPERIENCE

Xifin, Inc. January - March 2023
Software Engineer Intern *San Diego*

- Identified problems in Xifin RPM software by created test cases using Selenium and TestNG
- Updated deprecated code and optimized algorithms for the RPM software for Java 17
- Added and updated many Dao (for database access with SQL) classes and methods so that they can be used in future tests
- Worked with a team of QA engineers to create a new testing environment that automatically dumps data created during testing so that data would not corrupt other teams database environment

PROJECTS

Fortune Telling Web App

- Written in HTML, CSS, and Javascript
- Used multilayer designs in CSS and multiple effects and transitions for a modern UI/UX design
- Algorithm that calculates time/length value based on birthday, name, and drawing with 0.6, 0.3, and 0.1 weightings respectively
- Worked in an industry environment with proper documentation, source control, and CI/CD pipeline

File Compressor and Extractor

- Compresses an input file to an output file, and extracts any compressed file with a Huffman tree
- Utilized a header design that allows the compression to be reversible and immutable with the extractor
- Files can be compressed as much as 98%, for a 10MB text file, and works on any file

Digital Logic Design to do SHA256 and Bitcoin encoding

- Incorporates the SHA256 encoding algorithm in System VeriLog on Quartus to encode blocks of messages
- Multiple nonces are created to simulation the trial and error of valid nonce and signatures
- Parallel implementation where all 16 nonce and SHA256 hashes are created for efficiency
- Design to create 16 nonces with 1 input is efficient due to parallelization, taking only 391 cycles

Graph Analyzer & Distance/Time Calculator

- Application that could find the most optimal route given the distances or arrival times of various routes
- Using BFS, Dijkstra's, and Prim's Algorithms to find the shortest path, and most efficient route
- Used the underlying data structure of hashmaps to store the locations/nodes for maximum efficiency

Traffic Light Controller Digital Circuit

- Created a working digital logic that controls green/yellow/red light for all directions of traffic including turns
- Can efficiently changes traffic directions so that it maximizes traffic flow of the intersection
- Improved many instances of traffic conditions such as multiple changes of light cycles for just one car to pass

TECHNICAL SKILLS

Languages: Java, C/C++, Python, ARM, System VeriLog JavaScript, ReactJS, jQuery, SQL, DOM, HTML/CSS
Framework & TechStack: Git, Jira, Confluence, VSCode, IntelliJ, JUnit, Maven, Selenium, Jest, CI/CD
Soft Skills/Leadership: President of Programming Club, President of Maker Hub, work well in groups and teams
Hobbies: PC building, Track days, Piano/music, Building apps/websites, Cars