

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, Web Development, Computer Architecture, RTL Design, Digital Design & Circuits, Signal Processing, Linear & Digital Systems, Operating Systems

EXPERIENCE

XiFin, Inc.

January - March 2023

Software Engineer Intern

San Diego

- Automated test cases using Selenium and WebDriver to identify problems in XiFin software
- Created and updated database access objects that communicate with the server through SQL
- Utilized Jenkins to automate the test cases created, and set parameters to ensure software compliance
- Worked in a team of QA engineers to create a new REST testing environment for new automation testing that restores the environment after every test to avoid memory/data leaks
- Updated deprecated code and optimized algorithms in XiFin software by 33% in runtime

PROJECTS

[Bae-o-meter.com](https://bae-o-meter.com) |  | *HTML, CSS, JavaScript*

- Single Page Web app that utilizes CSS transitions to show and hide different stages of the app
- Used multilayer designs in CSS and multiple effects and transitions for a modern UI/UX design
- Implemented a test suite using Jest + Puppeteer for complete E2E testing, controlled through Github Actions
- Developed an algorithm for outcomes based on birthdate, name, and drawings with weighted factors
- Operated within an industry (agile) environment with documentation, source control, and CI/CD pipeline

Resume Database |  | *C#, .NET, MongoDB*

- Created a WPF application with C# and .NET to create, read, update, and delete PDFs (resumes)
- Utilized MongoDB to store all the PDFs in the form of a title, file path, and binary data of the PDF content
- Connected the frontend .NET GUI to the backend database of MongoDB with C#

Microprocessor |  | *SystemVeriLog, ARM Assembly, Python, ModelSim, Quartus*

- Engineered an efficient register-register architecture microprocessor with a program counter, branch operators, cache, ALU, and data memory
- Implemented SECCDED, forward and backward error correction (FEC/BEC), and bitstring search capabilities
- Introduced pipelining for improved instruction processing with higher throughput and lower latency

Traffic Light Controller Digital Circuit | *System VeriLog*

- Constructed a functional digital logic controller for green/yellow/red lights in all traffic directions and turns
- Optimized traffic flow by efficiently changing traffic directions based on sensor inputs
- Addressed traffic scenarios for enhanced efficiency, such as multiple light cycle changes for single-car passes

Digital Logic Design to do SHA256 and Bitcoin encoding | *System VeriLog, C*

- Designed and implemented SHA256 encoding algorithm in SystemVerilog on Quartus for message encoding
- Employed parallelism for nonce and signature creation through 16 trial-and-error simulations
- Achieved high efficiency through parallel creation of 16 nonces with only 391 clock cycles

TECHNICAL SKILLS

Languages: Java, C#, C/C++, Python, HTML/CSS/JavaScript, Assembly, SystemVeriLog, ReactJS, jQuery, SQL

TechStack: Git, Jira, JUnit, Maven, MongoDB, Selenium, Jest, Jenkins, CI/CD, Confluence, VSCode, IntelliJ

Soft Skills/Leadership: President of Programming Club, President of Maker Hub

Other: PC building, Track days, Piano/music, Building apps/websites, Automotive enthusiast