Wesley Sum

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Education

Virginia Tech June 2025
Bachelor Degree in Computer Science *Current GPA: 3.7/4.0*
Orange Coast College June 2023
Associates Degree in Computer Science *GPA: 3.7/4.0*

Relevant Coursework

Courses: Data Structures and **Software Design**, **Computer Organization** , **Object-Oriented Programming**
Awards: President and Dean's List (at Orange Coast College)
First place (Best Hack Utilizing Data) at VT Hackathon 2023, leading our team to success amidst **600+** participants.

Experience

IBM Quantum Computing | *Remote* September 2022 - June 2023

- Collaborated on advanced quantum computing projects, contributing to the development of cutting-edge algorithms and protocols.
- Implemented precise qubit mappings, reducing simulation errors, showcasing adeptness in **C++, Python, and Java**.
- Enhanced algorithmic runtime for complex processes (Shor's and Grover's algorithms), boosting practical usability.
- Assisted in the exploration of novel **quantum encryption** methodologies, highlighting a passion for learning and innovation in the realm of cryptography.
- Completed rigorous coursework on quantum gates and algorithms, displaying strong foundational knowledge and research skills.

Zengo Corporation Sdn Bhd, Malaysia | *Technology Intern* February 2021 - August 2021

- Managed sales of **10,000+** tons of gas oil cargo, contributing to revenue growth and demonstrating negotiation skills.
- Developed a Python-based calculation program automating gas oil inventory tracking, reducing manual calculation time by **52%**.
- Coordinated logistics for **5,000+** tons of gas oil cargo, showcasing organizational skills and attention to detail.
- Maintained precise daily records, ensuring data integrity and enhancing operational efficiency.
- Enhanced Zengo Corporation's workflow by organizing electronic devices, contributing to improved efficiency.

Projects

Gentrification Prediction Model | *HTML/CSS, API, JavaScript, Git, Jupyter, VS Code*

- Applied data analysis and modeling techniques, achieving **90%** accuracy in gentrification risk predictions using Python.
- Led a team in cleansing, training, and testing 4000+ data points,and efficient collaboration in scikit-learn.
- Engineered a responsive JavaScript-driven frontend, utilizing asynchronous data fetching and real-time DOM manipulation.
- Utilized API integration and JavaScript, contributing to the project's overall technical development.

Task Flow Manager | *Typescript, HTML/CSS, React, VS Code*

- Leveraged **TypeScript** and **React** to enhance user engagement and efficiency, integrating drag-and-drop interactions and real-time task status updates
- Implemented **useReducers** for streamlined state management, resulting in a **30%** boost in task organization and productivity.
- Conducted thorough testing and debugging, ensuring a high-quality user experience.
- Actively participated in the entire development lifecycle, from ideation to deployment.

Personal Website Design | *JavaScript, HTML, Tailwind CSS, VS Code*

- Implemented dynamic content and interactive features, creating an engaging user experience.
- Utilized pre-built classes from Tailwind CSS for rapid styling, demonstrating efficiency in frontend development.
- Ensured cross-browser compatibility and responsive design, optimizing the website for various devices and screen sizes.
- Actively maintained and updated the website, incorporating new projects and skills to showcase professional growth.

Skills

Languages: C++, Java, Python, JavaScript/TypeScript, HTML/CSS
Tools: Git/GitHub, Jupyter, VS Code, IntelliJ, Eclipse
Frameworks: React, JUnit