William Ryan Chiu

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Technical Skills

Languages: C/C++, Java, Python, Javascript, HTML/CSS, SQL, JSX
Libraries and Frameworks: React, Node.js, Express, Mongoose, JWT, bcrypt, YOLO V8, FastAPI, PostgreSQL
Technologies: Git, Linux, Powershell, Microsoft 365 Suite, MongoDB, Postman, Docker, WSL2, Firebase

Projects

3D Interactive Web App | *3JS, HTML/CSS, React, FastAPI, Docker, PostGreSQL, Firebase*   Jan 2025 - Present
- Containerized Backend, Frontend, and Database on Docker to improve scalability and streamline deployment
- Currently developing 3D interactive graphics using **3JS** and building out **FastAPI** Backend
- Data stored in **PostGreSQL** database; authentication conducted using firebase

Personal Calorie and Meal Tracker | *JS, HTML/CSS, React, Node.JS, Express, Mongoose, MongoDB, Postman*   Dec 2024 - Jan 2025
- Developed a responsive, user-friendly website for personalized calorie tracking and Meal planning
- Implemented a login and user creation page, intuitive UI, and search capabilities created using **React**
- Data stored in MongoDB database; backend formed using **Express, Node.js, and Mongoose**
- **Encrypted** user data using **Bcrypt**

Quantum Computing Algorithm to Minimize Power Loss | *Python, DWave*   Aug 2022 - May 2023
- Co-Developed a cloud based quantum computing program which minimizes power loss
- Co-Developed the **DFS** method and formula for weighting edges
- Won National Silver Medal, Energy Challenge Award, Hydrogen-Optimized Award

Experience

Firmware and Groundstation Developer, *UW Orbital Design Team – Waterloo*   Sept 2024 - Present
- Helped set up team's ground station backend file system
- Built Out Ground Station's telemetry Data Endpoint using **FastAPI and PostGreSQL**
- Currently implementing the SGP4 Propagator to retrieve the team's satellite using telemetry data

Team Member, *SE Design Project*   Sept 2024 - Dec 2024
- Wrote **Bash** script connecting Raspberry Pi Zero to Macbook; **asynchronously programmed** Pi to both recieve and process data
- Worked on fine tuning **YOLO V8** model for wheelchair driving assistance
- Connected backend AI assistant to wheelchair's Raspberry Pi using OBS and MacBook as a server

Assistant Teacher, *Spirit of Math Schools – Leaside, Toronto*   Sept 2021 - July 2024
- Assisted in teaching over 50 students mathematics by answering inquiries and helping them understand key fundamentals
- Evaluated student performance, graded classwork and homework, and recorded grades

Education

University of Waterloo, *Software Engineering*   Sept 2024 – Present
- **GPA:** 4.0
- **Activities:** UW Orbital Design Team, Waterloo Engineering Endowment Fund Program Representative
- **Awards:** Colonel Hugh Heasley Entrance Scholarship, Presidents Scholarship of Distinction