

Xinghao Li

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TECHNICAL SKILLS

Languages: C | C++ | C# | Python | Java | JavaScript | TypeScript | HTML/CSS | SQL |

Frameworks: FastAPI | Flask | Django | React.js | Angular | Next.js | .NET | MySQL | PostgreSQL | PyTorch | Pandas |

Cloud/Tools: Linux | AWS | Azure | Docker | Kubernetes | Git | Github | Gitlab | Vercel |

EXPERIENCE

AuraData - Software Engineer

May 2024 - Aug 2024

- Led the end-to-end design and implementation of Single Sign-On using Microsoft Azure and SAML 2.0, cutting **login time by 30%**, reducing password-support requests, and strengthening client and institutional security.
- Resolved and closed **100+ bug tickets** utilizing Microsoft Azure for issue tracking and automated unit/integration testing, **decreasing the work backlog by over 40%** and increasing client and user satisfaction
- Facilitated team brainstorming sessions and applied design thinking principles with rapid prototyping to resolve work tickets, collaborating closely with QA to accelerate pull requests and streamline deployments.

Mersivity - Software Developer/Researcher

May 2024 - Aug 2024

- Conducted in-depth research for the Muse-AI project, analyzing correlations between alpha and beta brain wave activity and cognitive focus states, **leveraging neuroscience literature and producing experimental data.**
- Developed an Android application integrating with a Muse Headband to monitor real-time brainwave patterns and deliver personalized guided meditation sessions, **achieving an 80% improvement in sustained focus.**

UW Orbital - Software Developer

Sep 2024 - Current

- Implemented Temperature Control System that detects critical temperatures to activate high-priority cooling system using **I2C** Serial Communication, actively **reducing component failure** and **decreasing material cost by 70%**
- Developed a custom 2-way communication API to connect the satellite in space to the ground station using Python and Postgres for backend and database management, achieving less than **30ms of latency round-trip**

PERSONAL PROJECTS

Forearm EMG Machine 🛠️ | ESP32 | Python

- Engineered a custom EMG machine by designing and assembling analog front-end circuitry (instrumentation amplifier, differential amplifier, filtering stages) and interfacing with an ESP32 for real-time signal capture.
- Developed embedded software in Arduino/C++ to sample muscle voltage signals on the ESP32, stream data via USB, and plot signals with stable time/voltage scaling for analysis.
- Built an interactive Python game that uses EMG muscle activity as input, demonstrating end-to-end integration of biosignal hardware with custom software for human-computer interaction

Automated Robotic Arm 🛠️ | Python | C++ | CV2 | Mediapipe

- Integrated Mediapipe and CV2 to plot hand coordinates based on live video, achieving less than **20ms of latency**
- Used various vector lengths and advanced linear algebra and trigonometry to build a custom depth-sensing program, resulting in **95% accurate relative depth tracking, reducing costs by \$300** without a depth camera
- Simulated inverse kinematics of a 2-segment robotic arm to target real-time hand positions using Matplotlib; optimized performance with Python's multiprocessing module ensure smooth, low-latency motion planning.

AI-Doctor 🛠️ | Python | Django | React.js

- Developed a complete and robust fullstack webapp with **Django/Python** backend and **React.js** frontend, utilizing scalable **REST API framework** and implemented a secure authentication user login system with simpleJWT
- Engineered a custom AI chatbot leveraging the GroqAPI to enable real-time, lifelike doctor-patient interactions through both speech and text; integrated natural language processing and speech synthesis modules with OpenAI SDK to simulate medical consultations, enhancing user engagement and realism for a health consultation.

EDUCATION

University of Waterloo - BAsC in Software Engineering

Sep 2024 - Present

- 94% Cumulative Average**