Xinghao Li

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Technical Skills

Languages: C | C++ | C# | Python | Java | JavaScript | TypeScript | HTML/CSS | SQL
Frameworks: PyTorch | Serial | Django | React.js | Angular | Next.js | .NET | MySQL | PostgreSQL | Pandas
Cloud/Tools: Linux | AWS | Azure | Docker | Kubernetes | Git | Github | Gitlab | Vercel

Experience

AuraData - *Software Engineer Intern* *May 2025 - Aug 2025*

- Spearheaded the end-to-end design and implementation of Single Sign-On using Microsoft Azure and SAML 2.0, **cutting login time by 30%**, streamlining the user experience and **reducing password-support requests by 50%**
- 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
- Supervised 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 2025 - Aug 2025*

- Analyzed correlations between **alpha and beta brainwave activity and cognitive focus levels** using Muse Headbands, producing experimental data and benchmarking results against established neuroscience literature
- Designed 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 - May 2025*

- 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, achieving less than **30ms of latency round-trip** for near real-time command and telemtry exchange

Personal Projects

Forearm EMG Machine | *ESP32 | Python*

- Engineered a custom EMG system to detect forearm muscle activation; built **analog front-end** (instrumentation amp, gain + filtering) and integrated an ESP32 for real-time acquisition at a sampling rate over 1500Hz.
- 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, **showcasing live neurophysiological signals**
- Prototyped an interactive game driven by EMG activity demonstrating end-to-end integration of biotechnological hardware with custom software for novel human–computer interaction and rapid prototyping of biosignal interfaces

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**
- Engineered a 3-DOF robotic arm by designing and 3D-printing a lightweight frame, integrating high-torque servos, and implementing precise joint calibration achieving smooth, full-range motion to imitate real arm movements
- 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**

- **90%** Cumulative Average
- Pursuing AI Specialization & Biomechanical Engineering Option