University of Waterloo

Co-operative Work Terms

Xinghao Li
21122034
2A Software Engineering, Honours, Co-operative Program
Biomechanics Option

Work Term	Employer	Evaluation
May - Aug 2025	AuraData Inc Divisional Office Ajax Ontario Canada Full Stack .NET Developer	OUTSTANDING

Planned Future Work Term(s)

Jan - Apr 2026
Sep - Dec 2026
May - Aug 2027
Jan - Apr 2028
Sep - Dec 2028

Disclaimer: This evaluation does not constitute an employment endorsement or recommendation. Employer evaluations of student contributions and achievements during the work term are conducted as part of the University of Waterloo's Co-operative (Co-op) Education model. Like academic grades, overall evaluations are part of the assessment of a student's progress in the co-op portion of their degree studies. These assessments are completed using criteria set out by the University, not the employer, and do not reflect the employer's criteria or assessment metrics.

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* *May 2025 - Aug 2025*

- Led 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
- 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 2025 - Aug 2025*

- Collected and labeled experimental data using Muse Headbands, analyzing correlations between **alpha and beta brainwave activity and cognitive focus levels**, benchmarking results against established neuroscience literature
- 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 - 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 machine that **detects forearm muscle activation through neural-electrical signals** by designing and assembling analog front-end circuitry 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, **showcasing live neurophysiological signals**
- Built an interactive Python Pygame game that uses EMG muscle activity as input, demonstrating **end-to-end integration of biotechnological hardware with custom software** for novel 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**
- 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

UNIVERSITY OF WATERLOO
UNOFFICIAL GRADE REPORT

Xinghao Li
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2A Software Engineering, Honours, Co-operative Program

Biomechanics Option

Fall 2025

CS	241E	Found Sequential Prog (Enrich)	
ECE	222	Digital Computers	
SE	201	Seminar	
SE	212	Logic & Computation	
STAT	206	Statistics (Software Eng)	
BIOL	130	Intro Cell Biology	
PSYCH	101	Intro Psychology	

Term Average: N/A Decision:

Spring 2025

PD	19	Tactics for Workplace Success	CR
COOP	1	Co-operative Work Term	CR

Term Average: N/A Decision:

Winter 2025

SE	102	Seminar	
CS	138	Intro Data Abstract & Implem	85
ECE	140	Linear Circuits	98
ECE	192	Eng Economics & Society Impact	91
ECE	124	Digital Circuits & Systems	93
MATH	119	Calculus 2 (Eng)	90
PHYS	121	Mechanics	77
ENGL	119	Communications (Math/Comp Sci)	77

Term Average: 87 Decision: Excellent Standing

Fall 2024

MATH	135	Algebra (Honours)	89
MATH	115	Linear Algebra (Eng)	96
SE	101	Intro Methods	95
CS	137	Programming Principles	93
CHE	102	Chemistry for Engineers	94
MTHEL	99	First-Year Math Readiness	CR
MATH	117	Calculus 1 (Eng)	95

Term Average: 93.55 Decision: Excellent Standing