

SEAN YANG

sean@seanyang.me ♦ seanyang.me ♦ linkedin.com/in/syang07 ♦ github.com/aicheye

EDUCATION

University of Waterloo

Bachelor of Software Engineering

Expected May 2030

- **Cumulative GPA:** 3.97/4.0 (Term Distinction awarded 2 of 2 terms)

SKILLS

- **Programming Languages:** C++, Python, Java, JavaScript, TypeScript, Rust, Verilog (Hardware Description Language)
- **Frameworks & Technologies:** Git, Agile Methodologies, Linux, React, Next.js, Docker, ROS 2, Tailwind CSS, GraphQL, Flask, SQL
- **Machine Learning:** PyTorch, Jupyter, Time Series Modelling, Predictive Modelling, Model Evaluation & Tuning

EXPERIENCE

Moss Robotics

San Francisco, California

Robotics Perception Intern

May 2026 – Present

- Owning the development of synthetic data generation pipelines (throughput @ **4 million pts/s**) for agricultural robotics applications
- Developing and evaluating computer vision models (**YOLOv8, DETR**) for tree segmentation and measurement
- Collaborating with teams to integrate fault-tolerant embedded software and **NVENC pipelines** in **Nvidia Jetson** hardware stacks

WATonomous (EVE Autonomy)

Waterloo, Ontario

Robotics Software Engineer

Sep 2025 – Apr 2026

- Developed concurrent robotics software in C++ using **ROS 2** for autonomous vehicle systems
- Built and evaluated rapid-inference **predictive models** for external agent behavior to **reduce safety incidents by 3x**
- Collaborated in a cross-functional team to integrate perception, world modelling, planning, and action nodes
- Maintained **Docker-based development environments** to support reproducible testing and deployment

PROJECTS

Multi-Robot Swarm Exploration [↗](#)

Personal Project

Feb 2026 – Apr 2026

- Mapping procedurally-generated mazes using **four robots** with no central coordinator, improving single robot performance by **7.5x**
- Organized via multi-threaded **frontier assignment, geodesic Voronoi partitioning** and multi-source BFS
- Built **4 ROS 2 packages** with per-robot FSMs and custom message types for swarm coordination
- Containerized the full stack in **8 Docker services** with Gazebo simulation and real-time Foxglove visualization

CRusTTY (C Interpreter/Debugger) [↗](#)

Personal Project

Dec 2025 – Mar 2026

- Built a **Rust-based C interpreter** from scratch with debugging and memory visualization using a recursive descent parser
- Implemented a **snapshot-based execution engine** enabling bidirectional stepping through program execution history
- Wrote **GitHub Actions** jobs to automate testing and building, preventing regressions and streamlining release management
- Open-sourced the project to share with the community and encourage contributions, garnering **50+ stars** on GitHub

Wundernn Market State Prediction [↗](#)

Wunderlab ML Challenge

Oct 2025 – Dec 2025

- Designed a **Transformer-based time series model** for noisy financial sequences in **Python** using **PyTorch**
- Outperformed the participant average (0.396 vs 0.309 mean R^2) and placing **top 5% of 3000+ competitors**
- Evaluated sinusoidal vs learnable positional encodings, ultimately combining both to improve long-range dependency capture
- Trained and evaluated models locally on GPU with JupyterLab, iterating on architecture under compute constraints

HONORS AND AWARDS

USACO Gold Division Promotion

Issued by *USA Computing Olympiad (USACO)*

Jan 2026

Certificates of Distinction in the Euclid, CSMC, & CCC (Sr. Div.) Contests

Issued by *University of Waterloo Centre for Education in Mathematics and Computing (CEMC)*

North York, Ontario

Jun 2025

Computer Science & Chemistry Excellence Awards

Issued by *A.Y. Jackson Secondary School*

North York, Ontario

Jun 2025