Sean Chan-Sato

778-939-4224 | schansat@uwaterloo.ca | linkedin.com/in/seanchansato/ | devpost.com/seanchansato

Education

University of Waterloo — Waterloo, ON
Bachelor of Mechatronics Engineering — *2025 – 2030*

Experience

Ten Ton Robotics — 2021-2025
Robotics Team Captain — *West Vancouver, BC*

- Captain of team 1010W (previously 10012W); led design, build, programming, for competitive robotics.
- Achievements: 2025 VEX World Championship 3rd Place (3/20,000+), 2023 VEX Robotics World Finalist (2/20,000+), 2022 World Championship Robot Skills 3rd Place (top 0.01 percent globally), 6x VEX World Championship qualification (Largest Robotics Competition in the World), 4 years consecutively 1 ranked team in Canada (2022–2025).

Pursuit Robotics — 2024-2025
Founder/President — *East Vancouver, BC*

- Founded a non-profit providing free robotics education to youth in underserved communities.
- Raised 5,000+ dollars to fund program operations, materials, and student participation.
- Developed curriculum using VEX IQ, focusing on hands-on STEM learning, innovation, and critical thinking.

Thierry Chocolaterie, Patisserie, Cafe — 2023-2025
Service Assistant — *West Vancouver, BC*

- Delivered exceptional customer service in a fast-paced café environment, resolving issues efficiently and collaborating with team members.

West Vancouver Schools — 2023 – 2024
Mechatronics Instructor Intern — *West Vancouver, BC*

- Taught grades 6–8 robotics and mechatronics fundamentals through hands-on projects.
- Guided students in designing, building, programming, and testing robots.
- Fostered a learning environment to inspire STEM engagement and innovation.

Projects

Plant Hopper – Hack the Valley X, 1st Place Overall | *Python, C++, OpenCV, Firebase, Next.js*

- Created an autonomous smart watering system that reduces water waste by targeting individual plants based on soil moisture and computer vision analysis
- Developed a multithreaded Python control layer to synchronize hardware sensors, water turret, and cloud commands in real time
- Built a Firebase backend and web app for remote monitoring, control, and data visualization of plant health from any device
- Integrated computer vision with PID-controlled water turret to accurately water plants on an optimized schedule

4ft Robotic PTO Climbing System | *Mechanical Design, Solidworks, Fusion360*

- Designed and built a 4-foot climbing robot featuring a Power Take Off (PTO) mechanism to optimize motor usage
- Engineered mechanical subsystems for reliable lifting, stability, and performance under competition conditions

Precise Frisbee Launching Robot with Goal Tracking | *Computer Vision, Python, C++, PID Control*

- Developed a vision-based targeting system using a camera to track goals in real time
- Designed and tuned a launching mechanism for high-accuracy frisbee shots over varying distances
- Programmed computer vision algorithms to process feedback and dynamically adjust targeting for improved precision

Technical Skills

Languages: Java, Python, C/C++, JavaScript, HTML/CSS, MATLAB
Frameworks: React, Next.js, OpenCV, Firebase
CAD / Design: Fusion 360, Inventor, SolidWorks, AutoCAD, OnShape