

Tommy Tang

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Dedicated and innovative engineer from Humberview Secondary School. Worked with robotics since 2022 and developed programming and CAD skills with the FIRST Robotics Competition Team 4946, The Alpha Dogs from Bolton, Ontario

Education

Humberview Secondary School – Will obtain OSSD in 2026 – 3.9 GPA

Sept 2022 – Present

Experiences

FIRST Robotics Competition (FRC) – Team 4946, Lead programmer

Sept 2022 – Present

- Mentored new programming members to understand object-oriented programming and applying it to basic control systems
- Led the software development of our team's computer vision and autonomous systems, using multiple feedback and feedforward control systems with minimal human input in Java
- Worked with Onshape to design and CAD the mechanisms of the industrial-sized robot
- Over the 2025 season, the quality of programming earned the team's first Autonomous Award, an award that celebrates the consistency and reliability of a robot's ability to complete tasks with zero human input
- The Alpha Dogs won their division at the 2025 FRC World Championship, and competed on the prestigious Einstein's field in Houston, Texas, ranking 6th out of more than 600 teams attending the championship

FIRST Tech Challenge (FTC) – Team 22242, Lead programmer, Design co-lead

Sept 2024 – Present

- Programmed the entire robot in Java using custom subsystem, command and operational mode integration to efficiently and smoothly run the custom swerve drivetrain in parallel with the multiple mechanisms on the 18x18x18 inch robot
- Designed and built the custom swerve drivetrain for the 2025-2026 season using Onshape

Waterloo EV Challenge

- Programmed a Raspberry Pi 4 with C++ to run the control system for Humberview Secondary School's 12 Volt electric vehicle for the 2024 Waterloo Electric Vehicle race
- Worked in Onshape to CAD the frame and mechanical systems on the 12 volt car
- Placed second at the first race Humberview attended, earning the Interstate Batteries Rookie Team Award

Aquatics | Town of Caledon | Caledon, Ontario

Sept 2023 – Present

- Worked with the Town of Caledon to run aquatics program for the public as a lifeguard and swim instructor
- Organized pool deck for different aquatics programs
- Prepared lesson plans and materials for students to safely engage in aquatic activities
- Ensured the safety to the general public during all swims by working together with fellow lifeguards

Projects

Ball Balancing Robot

- Built and programmed a robot that uses PID to balance a metal ball on a platform | [Article](#)