

# Eric Wu

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## EDUCATION

### University of Waterloo

*B.ASc in Mechatronics Engineering*

Waterloo, ON

*Expected Graduation 2030*

- Relevant Courses: Data Structures, Algorithms, Circuits, Statics

## SKILLS

**Languages:** C++, Python, Java, HTML/CSS, JavaScript, ROS

**Technology:** Fusion 360, SolidWorks, AutoCAD

## PROJECTS

### Waterloo Wash

2025

*Personal Project*

Waterloo, ON

- Built a web application for monitoring shared laundry machine availability
- Implemented front-end logic and UI flows to display machine status and user interactions
- Deployed a live web prototype and validated functionality through user testing

### Sensor-based Arcade Machine

2025

*Personal Project*

Waterloo, ON

- Developed embedded C++ firmware for an automated skee-ball game using Arduino microcontrollers
- Implemented real-time scoring displays along with IR and ultrasonic sensors over I<sup>2</sup>C
- Improved scoring accuracy by 35% through sensor calibration, debouncing, and timing-based filtering

### X-Y Odometry and PID Control System

2025

*Churchill Robotics*

Calgary, AB

- Designed and implemented an X-Y odometry system for accurate robot position tracking
- Tuned PID controllers to improve autonomous path accuracy and repeatability

### Integrated Tri-Ball Shooter / Hang Mechanism

2024

*Churchill Robotics*

Calgary, AB

- Designed a combined shooter and hanging mechanism to reduce weight and footprint
- Modeled and iterated designs in Fusion 360 for structural efficiency and reliability

## EXPERIENCE

### University of Waterloo Formula Electric

2025 – Present

*Suspension Machinist*

Waterloo, ON

- Manufactured top hats, spacers, plugs, and plates using mills and lathes
- Designed custom 3d-printed piston mounts for the vehicles front-damper system

### Churchill Robotics

2022 – 2025

*Mechanical Lead – Team 3388C*

Calgary, AB

- 2024 Alberta Provincial Champions; 2025 Design Award; multiple Tournament Finalist placements
- Designed custom laser-cut components and integrated mechanical subsystems using Fusion 360
- Led mechanical architecture, prototyping, and design trade-offs for competitive robot systems

### Inspire Table Tennis Association

2023 – 2025

*Founder / Treasurer*

Calgary, AB

- Co-founded one of Calgary's largest table tennis organizations, hosting provincial tournaments with over 120 competitors
- Secured \$5,000+ in sponsorship funding through partnerships with local businesses
- Managed budgeting, expenses, and financial reporting using Excel