

# Derek Gou

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## TECHNICAL SKILLS

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**Languages:** Java, Python, C/C++, JavaScript, TypeScript, Ook!, HTML/CSS

**Fullstack Tools:** React, Node.js, Flask, ExpressJS, TailwindCSS, Material-UI, Firebase, MongoDB

**Other Tools:** Git, Unity, Blender, OpenCV, Tensorflow, Scrapy, ThreeJS, Bash

## EXPERIENCE

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### Autonomy Team Member

Sep. 2025 – Present

*University of Waterloo Aerial Robotics Group*

*Waterloo, ON*

- Contributing to the development of cutting-edge autonomous drones.
- Streamlined development process of Hardware In The Loop software.

### Founder and Director

Sep. 2023 – Aug. 2025

*SproutHacks*

*Waterloo, ON*

- Founded and directed a student-led hackathon initiative, leading a team of 12+ high school students in planning and execution.
- Secured \$6,000 cash and \$12,000 in-kind sponsorships to provide free food, resources, and prizes for 80+ students from across Ontario.
- Partnered with local shelters to donate one meal per attendee, creating a direct community impact of 80+ meals donated.

### Web Development Lead

Apr. 2024 – Aug. 2025

*Children's International Learning Centre*

*Hamilton, ON*

- Designed and launched a fully responsive, SEO-optimized website using ReactJS, Vite, and TailwindCSS, enhancing accessibility for diverse users.
- Collaborated with board members and staff in monthly meetings to align technical development with organizational goals.
- Contributed to a \$10,000+ grant increase in the first month after launch by improving digital presence and donor engagement.

## PROJECTS

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### WCI MApp | *ReactJS, Tailwind, MappedIn APIs, Firebase*

Dec. 2024

- Built a wayfinding web app that improves campus accessibility and navigation for 1,200+ high school students.
- Partnered with school administration and MappedIn Inc. to align technical development with real-world deployment needs.

### ARmatica | *Unity, Flask, ReactJS, Tailwind*

May 2025

- Engineered a fullstack platform that transforms breadboard schematics into interactive 3D models, enabling live augmented reality overlays on physical circuits.
- Achieved 3rd place overall at JamHacks 9, Canada's largest high school hackathon (200+ participants)

### TouchUp | *Python, Mediapipe, OpenCV*

Jun. 2024

- Created a lightweight desktop tray app that replaces traditional navigation with gesture-based control, leveraging real-time hand tracking.
- Awarded 1st place overall at JamHacks 8, Canada's largest high school hackathon (150+ participants)

## EDUCATION

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### University of Waterloo

Ontario, Canada

*Bachelor of Software Engineering with Honours (BSE)*

*Sep. 2025 – Jun 2030*

- President's Scholarship of Distinction, Shad Valley Alumni Entrance Scholarship