Derek Wang

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Education

University of Waterloo   **Waterloo, ON, Canada**
Bachelor of Applied Science in Computer Engineering   *Expected April 2030*

- Relevant Coursework: Fundamentals of Programming, Linear Algebra for Engineering

Work Experience

Youth Badminton Instructor   **March 2024 – Present**
City of Richmond Hill   *Rouge Woods Community Center, Richvale Community Center — Richmond Hill, Ontario*

- Coach a class of **14 beginner to intermediate students** (ages **9–16**) in **8-week terms**, focusing on footwork, technique, and strategy
- Designed a **new badminton curriculum** centered around **real game situations**, which was adopted by **all** badminton classes at Rouge Woods and Richvale, enhancing student engagement
- Provide personal **feedback and mentorship** while delivering lessons to improve **individual performance**, fostering an inclusive space

Extra Curricular Experiences

Waterloo Aerial Robotics Group | *Github*   **August 2025 – Present**

- Autonomy Team Member

Checkmate Robotics Club | C++ | *Github*   **September 2024 – May 2025**

- Software team member of Team **16868C Rushdown** for the **VEX Robotics Competition**, invited to the **2025 VRC World Championships**
- Utilized **Okapi PROS Lib** to program robot functionalities, **Odometry** to track robot positioning, **PID Controllers** for precise motion control and error handling
- Wrote and tuned 15-second autonomous routes for matches, and 60-second programming skills, ranking **5th out of 80 teams** at **Provincial Championships**

Dr. X Robotics Academy | Java   **July 2019 – May 2022**

- Hardware team member of Team **16417 Dr. X Academy** for the **FIRST Tech Challenge**, invited to the **2022 FTC World Championships**
- Created **8 iterations** of the team's robot, including versions of the **drivetrain, arm, claw, turret** and a **backup robot**
- Wrote and tuned 30-second autonomous period for matches, using **java**, implementing **Dead Reckoning** for robot localization, and **PID Controllers** for motion control

Bayview Robotics Club | *Instagram* | *Github*   **September 2021 – June 2025**

- Led robotics team as **Vice President and main coder** in various robotics competitions such at **FIRST Tech Challenge** and **York Region Skills Challenge**
- Mentored **15 general members** and organize weekly STEM workshops, teaching them robotics basics in hardware and software.

Projects

WebTyper | JavaScript | HTML | *Source Code*

- Utilized **Javascript, CSS, and HTML** to turn any website into an interactive typing game
- Keeps track of past statistics such as **Words Per Minute(WPM), Accuracy, and total times played**

Technical Skills

Languages: Java, C++, Python, HTML5, CSS, JavaScript
Developer Tools: Git, Unity
Engineering Tools: Fusion 360, ROS, YOLOv11