Daniel Ye

University of Waterloo Mechatronics Engineering

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SKILLS

Languages and Tools: Java, C, C++, Python, Git, Android Studio, AutoCAD, SolidWorks and Solid Edge Modelling
Hardware: Arduino, Programmable ICs, Breadboarding and basic circuitry

RELEVANT EXPERIENCE

Lead Programmer - *School FIRST Robotics Club* **September 2019 – June 2020**

- Programmed the robot using Java for the 2020 FRC Infinite Recharge competition, an international competition consisting of 3898 teams worldwide that compete at regional, provincial, and international events.
- Designed and developed the pneumatically actuated active-intake system using **Solid Edge**, which increased ball intake efficiency compared to a passive-intake system.
- Developed joystick teleoperated controls and autonomous movement, intake, and shooter functionalities based off of **sensory feedback** that aided in making the robot easier to control and decrease the cycle times for scoring chances.
- Implemented real-time **camera vision processing** to automatically align the robot's ball turret/shooter with the retroreflective tape target using a **control loop**, which increased its speed and accuracy to score more points.
- Placed **2nd (Finalists)** at the 2020 Ontario District Georgian College event out of 29 teams, and received the Autonomous Award sponsored by Ford.

Private Java Tutoring - *Self-Employed* **March 2020 – Present**

- Lead one-on-one Java lessons for middle school students on competitive programming preparation for contests including the Canadian Computing Competition, and taught introductions to **Object-Oriented Programming**.

Club Founder and President - *School Computer Science Club* **June 2018 – May 2020**

- Introduced fellow high school students to Computer Science by teaching competitive programming concepts in **Java**.
- Prepared and presented weekly lessons on programming concepts, answered homework questions, and organized competitions to engage and spark interest in students who eventually did well in the Canadian Computing Competition.

PROJECTS

Pipe Dodger Android Game **2019**

- Interactive and scalable Android game available on the Google Play Store. (Java, Android Studio)

Personal Portfolio Website **2018-2019**

- Personal website/online portfolio to host and showcase projects. (HTML, CSS, Java Script, GitHub Pages)

Competitive Programming Notes Catalogue **2018**

- Online collection of notes for key concepts used in programming competitions, including data-structures, and sorting and searching algorithms. (Java, GitHub)

AWARDS

SHAD Saskatchewan Program **July 2019**

- Won the SHAD USASK Cup for best Design Project, out of 8 groups in the SHAD Saskatchewan program, for developing an automatic Medical Equipment Dispensing System to reduce medical waste.

Hack the Hammer **February 2018**

- Awarded **2nd place** for best project, out of 29 hackathon projects, for creating a facial recognition app to help first responders assess a situation by identifying the subjects on camera based on database information.

DECA **2018-2019**

- DECA is an international competition where students employ business and critical thinking skills to solve case studies.
- Qualified for the International Career Development Conference in the Food Marketing Series category after placing **top 10 in Ontario** in 2018, and placed top 20 in Ontario for the Sports and Entertainment Marketing category in 2019.
- Developed leadership, communication and public speaking abilities as the President of the club.

EDUCATION

St. Joseph Secondary School, Mississauga, ON **September 2017 – June 2020**

- Ontario Secondary School Diploma enrolled in the Advanced Placement program | Honor roll student - 96 average

University of Waterloo, Waterloo, ON **September 2020 – May 2025 (Expected)**

- Candidate for Bachelor of Applied Science in Mechatronics Engineering