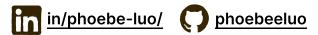
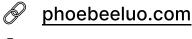
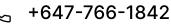
PHOEBE LUO













Waterloo, Ontario

SKILLS

Languages: C++, C, Java, Python, JS, Jquery

Technologies: AutoCAD, AutoDesk Inventor, Solidworks, Arduino, Git, GitHub, Linux OS, ROS

PROJECTS

Braille-iant | C++, CAD, 3-D Printing

May 2021

- Used C++ and the Arduino IDE to program stepper and servo motors to take input from the serial port and convert it into desired movements
- Designed the paper piercing mechanism using AutoCAD Inventor and sliced CAD models in Cura for 3-D printing
- Won best hardware hack at TOHacks 2021 out of 700+ participants

Robot Arm | Computer Vision, Control Systems, CAD

May 2021 - Present

- Designed a 5 DOF robot arm from scratch using Inventor and independently printed, assembled, and integrated it with electrical and hardware components
- Currently working on the arm software, using a Raspberry Pi to control the arm using the GPIO pins and a camera module to implement computer vision functionality

EXTRACURRICULARS

CAV Team Member | UW Alternate Fuels Team

Nov 2021 - Present

- Learning ROS, MATLAB, and Simulink to help the Connected Autonomous Vehicle (CAV) team develop a hybrid semiautonomous car for the EcoCar 4 Challenge
- Worked with the Linux OS to complete ROS training workshops to gain familiarity with ROS packages, topics, publishers, and subscribers

Lead Programmer | FIRST Robotics Competition Team 1241

Nov 2018 - April 2021

- Programmed autonomous routines and PID control systems in Java, contributing to the team's placement as the highest ranked Canadian team in our division at the 2019 World Championship.
- Implemented state machine architecture, tuned a computer vision pipeline, and interfaced it with robot movements to score points with an accuracy of 90% in 2020
- Worked with CAD software to design the robot drivetrain and gearboxes

Co-president | Erindale S.S DECA

Sept 2018 - June 2021

- Planned and taught the first-ever training program at the school, leading to a 150% increase in participants qualifying for the provincial competition
- Led a group of 8 other individuals to plan a professional development conference that had over 60 attendees.

AWARDS

Hack the North 2021 Finalist

Sept 2021

- Used CAD software and C++ to create a robot that automated the dumpling making process
- Was selected as 1 of 17 finalists out of 477 teams at Hack the North, Canada's biggest hackathon

Schulich Leader Scholarship

May 2021

 Offered Canada's most coveted undergraduate STEM scholarship awarded for exceptional leadership and entrepreneurship, worth \$100K, for McGill Software Engineering (co-op)

DECA ICDC Champion - Third Place

April 2021

- Awarded for exceptional performance at the international level of DECA, a case study competition
- Won 3rd place out of 200+ top competitors around the world

EDUCATION

INTERESTS

University of Waterloo

Candidate of Mechatronics Engineering, BASc Sept 2021 - April 2026 (expected)

3-D Printing Control Systems Mobile Robots

Computer Vision Graphic Design (Photoshop) **Drone Flying**