University of Waterloo

Co-operative Work Terms

Will Park
21118042
1B Electrical Engineering, Honours, Co-operative Program

No Co-op Work Term History available

Planned Future Work Term(s)

Sep - Dec 2025
May - Aug 2026
Jan - Apr 2027
Jan - Apr 2028
Sep - Dec 2028

July 5th, 2025

Dear Hiring Manager at Kiwi Charge,

I am a first-year electrical engineering student at the University of Waterloo. Currently seeking a four month September 2025 Internship at Kiwi Charge. I am passionate about embedded systems and I am particularly drawn to Kiwi Charge's mission.

I have some experience in embedded programming with C/C++ and Rust, as well as using VHDL and Verilog on FPGAs. I am a very quick learner and I am confident that I will do whatever is necessary to excel at Kiwi Charge. My commitment to excellence is demonstrated by my academic performance.

Thank you in advance for considering my application, and I look forward to hearing from you.

Sincerely,

William Park
Waterloo, ON
w5park@uwaterloo.ca
236-996-9116

William Park

236-996-9116 | www.williampark.org | linkedin.com/in/parkwilliamy | github.com/parkwilliamy | w5park@uwaterloo.ca

Work Experience

University of Waterloo Formula Electric Team Sept 2024 – Dec 2024
Electrical Team Member *Waterloo, ON*

- The goal of Formula Electric is to design, build, and test a new electric formula-style race car every year that competes in the Formula SAE Series
- Responsible for developing a general-purpose hardware-in-the-loop (HIL) printed circuit board capable of testing every unit in the car. The HIL board simulates various inputs for the car and is critical in ensuring driver safety
- Created the HIL board schematic in Altium Designer

AgilePixel June 2024 – Aug 2024
Data Analyst *Vancouver, BC*

- Identified and removed over 2000 duplicate companies in a client's Hubspot database, optimizing data management and increasing the reliability of valuable customer information

Projects

Autonomous Navigation System May 2025 - May 2025

- Designed and implemented a modular autonomous navigation stack in ROS2, including costmap integration, A* path planning, and pure pursuit control
- Developed custom ROS2 nodes for real-time map processing, path generation from dynamic goals, and odometry-based robot tracking
- Utilized Foxglove Studio to visualize and debug ROS2 topics, including real-time odometry, occupancy grids, and planner states, enabling rapid diagnosis of path planning and control issues
- Inspired by the University of Waterloo WATonomous design team's onboarding assignment

Robotic Hand Feb 2025 – Apr 2025

- Built a robotic hand that accurately mimics user hand movements in real-time with computer vision using an STM32 microcontroller and PCA9685 motor driver
- Transformed camera data into precise servo movements using Rust, Python, MediaPipe, and OpenCV
- Programmed STM32 and PCA9685 registers to configure and manage I2C and UART data transmission
- Utilized OpenOCD and GDB to debug STM32 code, validating register values to ensure seamless data transactions
- Designed and 3D printed the entire hand from scratch in Fusion360

Line-Following Robot Dec 2024 – Jan 2025

- Built a robot that can follow tracks with corners quickly and accurately using an STM32 microcontroller
- Implemented a proportional-integral-derivative (PID) control mechanism and infrared (IR) sensors to minimize path deviation
- Designed printed circuit boards using Altium Designer to consolidate circuitry and optimize performance of the IR sensors

Technical Skills

Languages: Python, C/C++, Rust, Verilog, VHDL
Developer Tools: Git, VS Code, Altium, Bitbucket, Fusion360, STM32CubeIDE, OpenOCD, GDB, Cargo, Vivado, Foxglove, ROS2, Docker, WSL, Ubuntu, Linux, Quartus Prime, COMSOL
Libraries: PyTorch, pandas, NumPy, Matplotlib, scikit-learn, CUDA, MediaPipe, OpenCV, pyserial
Protocols: SPI, I2C, CAN, UART

Education

University of Waterloo Waterloo, ON
Bachelor of Applied Science in Honours Electrical Engineering *Sept 2024 – May 2029*
Cumulative GPA: 91.08%

UNIVERSITY OF WATERLOO
UNOFFICIAL GRADE REPORT

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Fall 2025

PD	20		Strategies for Career Success	
Term Average:		N/A	Decision:	

Spring 2025

ECE	108		Discrete Math & Logic 1	
ECE	106		Electricity & Magnetism	
GENE	120		First-Year Eng Seminar	
MATH	119		Calculus 2 (Eng)	
ECE	102		Information Session	
ECE	140		Linear Circuits	
ECE	124		Digital Circuits & Systems	
ECE	192		Eng Economics & Society Impact	
Term Average:		N/A	Decision:	

Winter 2025

PD	19		Tactics for Workplace Success	CR
Term Average:		N/A	Decision:	

Fall 2024

GENE	119		First-Year Engineering Seminar	
ECE	190		Eng Profession & Practice	82
ECE	105		Classical Mechanics	82
MATH	117		Calculus 1 (Eng)	99
ECE	198		Project Studio	85
ECE	150		Fundamentals of Programming	94
COMMST	192		Eng Comm (COMPE/ELE/MGTE)	88
MATH	115		Linear Algebra (Eng)	100
MTHEL	99		First-Year Math Readiness	CR
Term Average:		91.08	Decision:	Excellent Standing

Project portfolio: www.williampark.org

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This job is funded by the Government of Canada as advertised in the job posting. To be eligible you must be a Canadian citizen, permanent resident or a protected person defined by the Immigration and Refugee Protection Act. Do you meet this requirement?	Yes
Are you open to an 8 months co-op?	No