

# Kieran Lachmansingh

Graduate Student Specializing in High Performance Computing with Robotics

Hello! I'm a passionate robotics and high-performance computing graduate exploring the frontier between intelligent algorithms, real-time systems, and scalable design.

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in kieranlachmansingh

18ksl

Ontario, Canada

## SKILLS

Programming	Robotics Middleware	Modelling & Design	Media & Tools	Personal Traits
C++, C, Python, MATLAB/Simulink	ROS & ROS2	3D Modelling, Inkscape	Camtasia	Team Player, Hard Working

## EDUCATION

### MASc. High Performance Computing & Robotics

Queen's University 2023 – 2026 (expected)

- Curriculum Cocoa and derivatives
- Current GPA: 4.08

### BASc. Electrical Engineering

Queen's University 2018 – 2023

- Dean's Scholar
- Graduated with First Class Honours
- GPA: 3.68

## PUBLICATIONS

### SHARP: Supercomputing for High-Speed Avoidance and Reactive Planning for Robotics

International Conference on Robotics and Automation Submission Sep 2025

Keywords: HPC, Robotics, Cloud Computing

- Demonstrated that high-performance computing can enable millisecond-level reaction times for real-time robot motion planning.
- Showed that offloading heavy planning to HPC remains feasible despite network latency, achieving 23–30 ms planning times and 85–88% avoidance success.
- Provided a reproducible evaluation method and highlighted how hybrid onboard/HPC architectures can improve responsiveness in dynamic environments.

## EXPERIENCE

### Student Engineering Intern

Ontario Power Generation May 2021 – May 2022 Pickering, Ontario

Keywords: Nuclear Power, Computer Systems

- Created programs to automate onerous tasks within Safety Related Systems Section.
- Coordinated Station Condition Reports for Electrical Computers and Control Department.
- Performed preliminary testing and preparation of test reports on Darlington Digital Control Computers project.

## OTHER ACTIVITIES AND PROJECTS

### F1 Tenth

from Sep 2025 – General Perception Member

### Musician

8 Years of Piano, 4 Years of Saxophone, Guitar

### Robotics Capstone

Sep 2022 – Apr 2023

### Athletics

15 Years of Karate, 4 Years of Weightlifting

### Queen's IT Operations

May 2020 – General Member

## AWARDS

1st Degree Black Belt

First Class Honours

Dean's Scholar

## LANGUAGES

English