Summer Internship Opportunity
Mechatronics & Robotics Engineering Course Development

On behalf of the Mechatronics & Robotics Engineering program, the Faculty of Engineering & Applied Science at Queen’s University will be hiring one undergraduate or graduate student intern for Summer 2022 (May through August) to support the development of robotics hardware, software, and workshop activities for the new course MREN 203 Mechatronics Design II, which will be offered for the first time in Winter 2023.

The focus of this first offering of MREN 203 will be on robotic systems design and integration. The successful candidate will assist Engineering technical staff and faculty in preparing a fleet of autonomous mobile robots for use by students in MREN 203. In the first part of the course, the students will use these mobile robot platforms to learn about the fundamentals of robot actuation, motion estimation, planning, and control. They will be required to carry out a sequence of well-defined workshop activities. In the second part of the course, the students will tackle a more open-ended design challenge that will involve the integration of multiple subsystems to achieve an industrial application-motivated task/system.

All applicants should be one (or more) of the following:

- An undergraduate student who has completed their 2nd year of studies in either of the Electrical, Computer, Mechanical, or related (e.g., Engineering Physics or Applied Mathematics) programs at Queen’s; or
- A recent graduate from an electrical, computer, mechanical, mechatronics, robotics, or related engineering program at Queen’s or elsewhere; or
- A current or recent graduate student in either the Department of Electrical & Computer Engineering or the Department of Mechanical & Materials Engineering with a focus on robotics and/or mechatronics engineering.

The successful candidate will preferably possess most of the following skills:
- A solid understanding of the core concepts in engineering design and problem solving, including professional practice, as well as systems design methodology fundamentals;
- A firm grasp of the basics of control and systems engineering, electronic circuits, DC motors and servomotors, as well as sensors frequently used in robotics applications;
- Proficient in computer programming in the C/C++ and Python languages;
- Familiarity with Arduino (and/or other) microcontrollers and Raspberry Pi computers;
- Can work well both independently and collaboratively with others;
- Demonstrated initiative and creativity in engineering (or other) work; and
- Has a keen interest in robotics and mechatronics engineering!

The successful candidate will (tentatively) work with Prof. Joshua Marshall, Professor (ECE) and Interim Director at the Ingenuity Labs Research Institute, and together with technical staff at Queen’s Engineering. For more information about the Mechatronics & Robotics Program at Queen’s, please visit the website https://mre.engineering.queensu.ca.

Interested candidates should submit a cover letter, unofficial transcript, and a resume/CV by Monday, April 18th at 4 PM to Mary Bouchard (m.bouchard@queensu.ca). We appreciate all applications, but only those selected for an interview will be contacted.

For undergraduate students, the position will be for 16 weeks of full-time work (normally May through August) at $17/hour (plus vacation pay). For graduate students, the position will be for 16 weeks, part-time, with a maximum of 10 hours per week of work time.

Candidates must be eligible to work in Canada.