



## **PhD Position in Mechanical Engineering: Autonomous Robotics for Space Exploration**

A PhD position is available in the department of mechanical engineering at Polytechnique Montreal and will be open for appointment from May 1<sup>st</sup>, 2022. The Department of Mechanical Engineering is a dynamic and diverse research and educational environment and conducts cutting-edge research in close collaboration with industry. For more information, please consult the web site: [www.polymtl.ca/meca](http://www.polymtl.ca/meca). Polytechnique Montreal is one of the largest engineering education and research institutions in Canada with more than 8,000 students and 1,000 employees. It is recognized as a world-class engineering school and it ranks 1<sup>st</sup> in Canada for the scope of its engineering research.

### **Position description**

This PhD position is supported by the NSERC's Collaborative Research and Training Experience (CREATE) program through the research ecosystem of the SMART Autonomous Robotic Technology for Space Exploration (SMART-ART) initiative. This program will train students in the development of technical and professional skills - both interdisciplinary and multidisciplinary - in artificial intelligence, computer vision, autonomous robotics, and engineering systems for space exploration. This program will address Canada's current challenges of a skills shortage, an aging workforce and gender inequity in the aerospace sector. Industrial visits and internships, equity, diversity and inclusion (EDI) initiatives and leadership training, technical and professional training, as well as opportunities for mentorship, entrepreneurship, student mobility and enriched training are all components of this program. Researchers from York University, Carleton University, Concordia University, University of Manitoba, McGill University, University of Regina, Ryerson University, the University of Toronto, the University of Waterloo, and the University of Western Ontario intend to participate in the training and mentoring program.

### **Requirements:**

- MSc degree in mechanical, electrical, computer science or any other related disciplines with expertise in robotics, mechatronics, control systems, artificial intelligence and computer vision.
- Experience with Object-oriented programming in C++ and Python.
- Experience with analysis and simulation in MATLAB/Simulink
- Excellent interpersonal and communication skills, teamwork, autonomy and proactivity.
- Priority will be given to Canadian Citizens and Permanent Residents.
- International students should provide proof of English language proficiency:
  - IELTS: A band score of 7.0 or greater
  - TOEFL IBT: 95 overall or greater, no less than 20 in each of the four component scores.
  - The Duolingo English Test (DET) is **NOT accepted**.



**Assets:**

- Knowledge in Multidisciplinary Optimization
- Experience with Embedded Systems
- Knowledge in 3D modeling and 3D printing
- Knowledge in French language

**Benefits:**

- Fully funded position (22,000 CAD/year)
- Industrial internships and inter-university visits
- International student tuition fee remission
- Access to various skill development workshops
- Opportunities to attend international conferences and seminars.

**How to Apply:**

Candidates should submit an application package consisting of:

1. A curriculum vitae (CV)
2. Undergraduate and graduate transcripts,
3. The names and contact information of two referees,
4. Proof of English language proficiency

to the following email with the exact subject line of “**PHD POSITION IN SMART-ART**”.

**Abolfazl Mohebbi, PhD., CPI.**

Assistant Professor,  
Department of Mechanical Engineering.  
Polytechnique Montreal

[abolfazl.mohebbi@polymtl.ca](mailto:abolfazl.mohebbi@polymtl.ca)