



Le génie pour l'industrie



Embedded programming of swarms

Job description

The INIT Robots lab is seeking a research assistant (part-time contract) to take on a handful of programming tasks on our smallest robots. We do research on robotic swarm, e.g., large groups of robots collaborating in a self-organised way to fulfill specific missions. In this project you will actively participate in building the tools to make the swarm behavior possible to deploy on real robots.

The projects impacted by this work involve the collaboration of several partners, namely the MIST lab directed by Pr. Giovanni Beltrame at Polytechnique Montréal. You will work closely with the experts from these groups.

Responsibilities

The successful candidate will carry out the responsibilities of this position with dynamism and creativity, namely

- You will implement new functionalities in STM and Atmega controllers, such as interfacing a distance sensor over I2C with a Raspberry Pi and changing the velocity control of a small table-top wheeled robot;
- You will work with a team of several MScs and PhDs and several engineering interns who will directly benefit of your work.

Resources

We have a fleet of 14 micro-drones (Crazyfly), 6 mini-drones (Cognify) and 32 table-top small robots (Zooids) with all the professional equipment to solder and debug micro-controller circuits.

Duration

Start date is as soon as possible. The contract is renewable each semester.

Salary and benefits

You will have contract with an hourly rate between 20\$ and 30\$ based on experience. This includes:

- Flexible part-time workweek of 8h to 20h, following our contractual agreement;
- Contribute to a Registered Retirement Savings Plan (RRSP), with the employer matching your contribution up to 5% of your salary;
- The work mode is hybrid, meaning that you can work remotely at times. You will have to be in Montreal to experiment with the hardware.

Profile and Job Requirements

This position requires that you are currently enrolled in an undergrad or graduate program in Montreal.

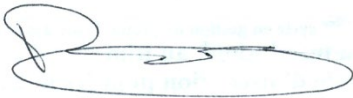
- You are at least in your 3rd year of study in Engineering or Computer Science;
- You have practical experience in programming C and Python;
- Having experience with the Robotic Operating System (ROS) is an asset.

Application Instructions

Candidates are invited to submit an application file that includes:

- A CV
- Your most recent academic transcript.

To apply: <https://initrobots.ca/en/positions>



Dr. David St-Onge, Eng. PhD MPM
Associate professor
Director of INIT Robots Lab
Department of Mechanical Engineering
École de technologie supérieure
david.st-onge@etsmtl.ca