



Le génie pour l'industrie



## Cognitive load ROS Python library

### Job description

The INIT Robots lab is seeking a research assistant (part-time contract) to maintain our physiological signal processing Python library. While several libraries are already available to post-process these signals, and several manufacturers of the sensors provide live data APIs, our library synchronizes all these data into a robotic ecosystem (ROS). In this project you will actively participate in building the tools to make the robotic systems better adapted to their operators.

The projects impacted by this work involve the collaboration of several partners, namely the CL:ASP lab directed by Pr. Emily Coffey at Concordia University. 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 published algorithms into the Python library, such as data gap interpolation and signal filtering;
- 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 access to the full range of products by Tobii (pupillometry) and BioPac Systems (ECG, EDA, RSP, etc.) to capture cognitive load-related physiological features.

### Duration

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

### Salary and benefits

You will have contract with a 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.*

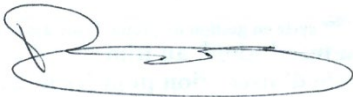
- You are at least in your 3<sup>rd</sup> year of study in Engineering or Computer Science;
- You have practical experience in programming Python and/or C++;
- Having experience with the Robotic Operating System (ROS) is an asset.

## 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>



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