Le génie pour l'industrie

Lab INIT Robots

Worker-safe mobile manipulator for manufacturing

Job description

The INIT Robots lab is seeking a postdoctoral fellow to lead the research efforts on mobile manipulator teams for collaborative manufacturing tasks. The manufacturing industry has seen a lot of robotic cells, and, more recently, some collaborative robot's tasks. Granting the robotic manipulators with a mobile base will greatly enhance their application potential but also trigger more safety concerns. In this project you will actively participate in building the knowledge and tools to make manufacturing mobile manipulators safe, while working on high-end robotic platforms and real facility deployment.

The projects impacted by this work involve the collaboration of several partners, namely MIST Lab directed by Pr. Giovanni Beltrame at Polytechnique Montréal, Robotic lab directed by Lionel Birglen, Kinova Robotics and Productique Québec. 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 advance knowledge on Human-robot teaming, safety standards and benchmark tests, mobile manipulator operation and user-centered design.
- You will publish original research as the first author in journals such as Safety and Health at Work, Autonomous Robot Journal and IEEE Transactions on Human-Robot Interaction.
- You will work with a team of several MScs and PhDs and several engineering interns where you will enhance your supervision and mentoring experience.
- You will lead the close coordination between the researchers from the partners involved in the related projects;
- *Network* with academics and representatives from the manufacturing industry.

Resources

We have eight (8) Gen3lite from Kinova installed on Dingo mobile bases from Clearpath for this project as well as two (2) Gen3 installed on Boxer bases. We have strong expertise with robotic simulator in our engineering team. When ready for realistic tests, we can count on the support of Kinova Robotics and Productique Québec to host the experiments.

Duration

Start date is as soon as possible. The contract is renewable each year for a total duration of three years.

Salary and benefits

You will have a total allowance (salary and benefits) ranging from $50,000 to $65,000 CAD based on experience. This includes:

- Standard workweek of 35h;
- Contribute to a Registered Retirement Savings Plan (RRSP), with the employer matching your contribution up to 5% of your salary;
- Health and medical insurance offered by Manuvie;
- 23 days of vacation and 10 days due to sickness.
- The work mode is hybrid, meaning that you can work remotely at times. You will have to be in Montreal for activities involving user studies, user tests, simulator setup, meetings with partners and supervising students.

Profile and Job Requirements

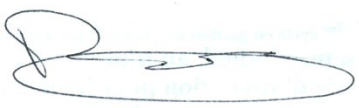
- You must have completed your PhD less than 5 years ago;
- You hold a PhD in Engineering, Computer science, or Ergonomics;
- You have practical experience to conduct user-centered design activities: user studies, human-robot interaction prototyping or usability tests;
- You have practical experience in programming Python and/or C++;
- You have published original research in quality journals;
- Having experience with robotic manipulators is an asset e.g., control, design, end-user application, etc.
- 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
- A cover letter with a statement of your research interests
- Up to three significant contributions you authored, explaining your role in the work.

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



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