
Title: Rehabilitation Robotics Postdoctoral Fellow

Location: Downtown Toronto, Canada

Date: July 16, 2010

Closing Date: October 1, 2010

Intelligent Assistive Technology and Systems Lab, University of Toronto

Description:

The Intelligent Assistive Technology and Systems Lab (IATSL) invites applications to the position of Postdoctoral Fellow in Rehabilitation Robotics. Candidates must hold a Ph.D. in an appropriate discipline in addition to relevant experience in a research environment. The start date is November 1, 2010, although an immediate start preferred.

The successful candidate will join a unique multi-disciplinary, multi-centre research team led by Dr. Alex Mihailidis (University of Toronto/TRI) that includes several bioengineers, computer scientists, occupational therapists, speech and language pathologists, clinicians, and mechanical/electronic technicians. IATSL is affiliated with many prestigious institutions including the University of Toronto, Toronto Rehabilitation Institute, and Sunnybrook Health Sciences Centre. Funding and support comes from a variety of institutional partners, such as NSERC, CIHR, American Alzheimer Association, and the Alzheimer Society of Canada. Our research on rehab robotics is also supported by an industrial partner, Quanser Inc. This position will be co-supervised by Dr. Jesse Hoey at the University of Waterloo.

IATSL develops autonomous, intelligent computerised devices that can help people with disabilities live more independently. A major strength of our research program is the combination of basic science, computing principles, clinical research, and product design and development. Our research employs cutting edge technologies and computer techniques, such as stereo vision, partially observable Markov decision processes, and various artificial intelligence techniques.

Within this research, you will be expected to provide support for projects focusing on a wide variety of computer-driven assistive technologies and intelligent systems, with a primary focus on the development of an intelligent robotic platform that uses haptics and artificial intelligence to provide rehabilitation for stroke patients. This rehabilitation robot will be able to guide a patient through a variety of different exercises, using artificial intelligence to learn about the user's progress, abilities, and preferences in order to adapt accordingly. The successful candidate will work with the research team to develop and clinically test a new robotic device, and to implement efficient real-time decision making and planning algorithms. The candidate will be responsible for assisting in the supervision of undergraduate and masters level students assigned to this project, as well as the development of the project as a whole.

The initial position will be a one-year contract, renewable based on performance and funding. Salary will be based on the applicant's previous experience and education.

For more information about our research, visit our web site: www.iatsl.org

Requirements:

The successful candidate must hold Doctorate degree in robotics, computer science, or a related field. The candidate must demonstrate extensive knowledge of robotics, sensing, multi-sensor fusion, computational intelligence, and excellence in implementing real-time algorithms. Experience in graphics, and computer games programming would also be an asset, however, not mandatory. Applicants must be able to demonstrate strong leadership capabilities and an ability to lead projects in a research environment. The applicant will need to also demonstrate an aptitude for transdisciplinary research that addresses the intersections of health care, technology, and project management.

The University of Toronto hires on the basis of merit and is committed to employment equity. All qualified persons are encouraged to apply, however, Canadian citizens and permanent residents will be given priority.

Application:

The closing date is October 1, 2010. To apply, please send a covering letter, curriculum vitae, a statement of your research interests (1-2 pages), and a copy of your university transcripts to:

*Dr. Alex Mihailidis
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University of Toronto
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Toronto, Ontario, CANADA, M5G 1V7*

*E-mail: alex.mihailidis@utoronto.ca
FAX: (416) 946-8570*

Submissions by e-mail or FAX are preferred. After an initial screening, selected applicants will be asked to forward three academic and/or professional letters of reference.