Title: Intelligent Systems and Software Developer  
Location: Downtown Toronto, Canada  
Position Start Date: March 5, 2007  
Date of Posting: January 11, 2007  
Closing Date: February 16, 2007

Intelligent Assistive Technology and Systems Lab / Physical Function Lab  
University of Toronto / Toronto Rehabilitation Institute (TRI)

Description:
The Intelligent Assistive Technology and Systems Lab (IATSL) and the Physical Function Lab (PFL) invite applications to the position of intelligent systems and software developer for intelligent cognitive devices. Candidates must hold a M.Sc. in an appropriate discipline or a B.Sc. in an appropriate discipline in addition to relevant post-degree experience in a research environment. The start date is March 5, 2007, although an earlier start is much preferred.

The successful candidate will join a unique multi-disciplinary, multi-centre research team that includes several bioengineers, computer scientists, occupational therapists, speech and language pathologists, neuroscientists, clinicians, and mechanical/electronic technicians. The team is led by Dr. Alex Mihailidis (University of Toronto/TRI), Dr. William McIlroy (University of Waterloo / TRI), and Dr. Jesse Hoey (University of Toronto). Both IATSL and PFL are affiliated with many prestigious institutions including the University of Toronto, Toronto Rehabilitation Institute, and Sunnybrook and Women's College Health Sciences Centre. Funding comes from a variety of corporate and institutional partners, such as American Alzheimer Association, Alzheimer Society of Canada, and Intel Corporation.

Our research program primarily aims at developing autonomous, intelligent computerised devices that can help older adults live more independently. Within this research, you will focus primarily on the development of stand-alone and networked software systems for autonomous devices that compensate for physical and cognitive deficits that are a result of aging. The successful candidate will work with the research team to implement efficient real-time computer vision and planning algorithms for assistive devices within the previously established distributed computing architecture. The candidate will also work on maintaining and improving the distributed substrate.

A major strength of the 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. The successful applicant will provide support for projects focusing on a wide variety of computer-driven assistive technologies and intelligent systems.
The initial position will be a one-year contract. Salary will be based on the applicant's previous experience and education. The contract may be renewed after the initial year, based on available funding and employee performance.

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

Requirements:
The successful candidate will hold either a Master or Bachelor degree in engineering, computer science, or a related field. The candidate must demonstrate an excellence in implementing real-time algorithms (primarily under Linux) in C/C++, Firewire (and other) camera interfacing and working with networked distributed systems. A strong understanding of and experience with software development practices is also essential, including OOP, build control (makefiles, Cmake, Automake and friends), revision control (cvs, svn) and GUI development (FLTK and GTK toolkits). Experience with Linux is essential.

Experience with any of the following is considered a strong asset:
- machine vision, computational intelligence
- Matlab
- LabView, data acquisition principles and Bluetooth communication.
- analog and digital circuit design
- microcontroller interfacing
- VR development / programming

The applicant will need to also demonstrate an aptitude for transdisciplinary research that addresses the intersections of health care, technology, and place.

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 February 16, 2007. 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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E-mail: iatsl@utoronto.ca
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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.