Announcement of Postdoctoral Fellow position in Machine Learning for Medical Image Analysis

Position and supervision

We are seeking applicants for a new Postdoctoral Fellow position in Machine Learning for Medical Image Analysis, under the direct supervision of Prof. Tal Arbel and co-supervision of Prof. Doina Precup. Postdoctoral fellowships can commence right away, and the planned duration is 2 years (renewable). Prof. Arbel [1] is Director of the Medical Imaging Lab and Probabilistic Vision Group – a research group that works on probabilistic methods for computer vision and medical image analysis. This lab is part of the Centre for Intelligent Machines, a world-renowned, interdisciplinary research centre focusing on intelligence systems. Prof. Precup [2] is Co-Director of the Reasoning and Learning Lab, a group of 50+ researchers interested mainly in machine learning and AI. McGill University is located in the beautiful city of Montreal, a vibrant, bilingual, multicultural metropolis in the province of Quebec, Canada.

Research project and team

The research project focuses on the development of new machine learning algorithms for medical imaging, including Bayesian, probabilistic graphical models and deep learning. Specifically, the candidate will develop theoretical frameworks and software tools to automatically learn Magnetic Resonance Imaging (MRI) biomarkers for predicting Multiple Sclerosis (MS) disability progression. The Postdoctoral fellow will join a large collaborative team of researchers worldwide, as part of a recently awarded 4M Collaborative Network Award grant funded by the International Progressive MS Alliance (IPMSA) [3]. The team consists of an interdisciplinary set of researchers including, in addition to computer scientists, neurologists and experts in MS, biostatisticians, medical imaging specialists, and members of the pharmaceutical industry, joining groups from the Montreal Neurological Institute (Canada), Harvard Medical School (USA), University College London Hospital (UK), University of Genoa (Italy), John Hopkins (USA), and others. The Postdoctoral fellow will have access to an enormous dataset of real, multicenter, multi-scanner, MS patient MRI on which to train and test their frameworks.

Tasks, qualifications and informations

The main task is conducting independent research although responsibilities will include collaboration with other members of the IPMSA team and co-supervision of junior graduate students. Candidates should submit a CV, 1-2 significant publications, and the names of 2 referees. The candidate must have a PhD in one of computer vision/medical image analysis/machine learning and a good track record of publishing in top conferences and journals (e.g. CVPR, MICCAI, IPMI, PAMI, TMI, MIA, NIPS, ICML). Candidates must have strong mathematical skills, good programming skills and knowledge and experience in the domain of machine learning (e.g. C/C++, OpenCV, Theano). The work schedule and working hours are Monday to Friday, from 9am to 5pm. The location of work is McConnell Engineering Building of McGill University. We will offer a minimum salary of 50,000CAD (negotiable based on experience/qualifications), with additional health and dental benefits.

Contacts

All interested candidates should contact Prof. Arbel: arbel@cim.mcgill.ca and Prof. Precup: dprecup@cs.mcgill.ca and cc Prof. Arbel's research associate Dr. Lemaître: plemaitre@cim.mcgill.ca. McGill University is committed to equity in employment and diversity. It welcomes applications from indigenous peoples, visible minorities, ethnic minorities, persons with disabilities, women, persons of minority sexual orientations and gender identities, and others who may contribute to further diversification.