

## Announcement of PhD student Position in Machine Learning for Medical Image Analysis

We are seeking applicants for a new PhD student position in Machine Learning for Medical Image Analysis, under the joint supervision of Profs. Tal Arbel and Doina Precup.

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. The research project focuses on the development of new machine learning and computer vision algorithms to automatically learn Magnetic Resonance Imaging (MRI) biomarkers for predicting Multiple Sclerosis (MS) disability progression. The PhD student 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 PhD student will have access to an enormous dataset of real, multicenter, multi-scanner, MS patient MRI on which to train and test their frameworks. The candidate must have completed or being about to complete a M. Sc. or M. Eng. in one of: computer vision, medical image analysis, machine learning. A good track record of publishing in top conferences and journals (e.g. CVPR, MICCAI, IPMI, PAMI, TMI, MIA, NIPS, ICML) is a strong plus. Candidates must have strong mathematical skills, good programming skills and knowledge and experience in the domain of machine learning and deep learning (e.g. Python, Tensorflow/Theano/Pytorch, C/C++, OpenCV). In addition to conducting independent research, responsibilities will include collaboration with other members of the IPMSA team and collaborations with other graduate students. Candidates should submit a CV, relevant publications (or projects, blogs, links to repos they deem appropriate), and the names of 2 referees.

All interested candidates should contact Prof. Tal Arbel: [arbel@cim.mcgill.ca](mailto:arbel@cim.mcgill.ca) or Prof. Doina Precup: [dprecup@cs.mcgill.ca](mailto:dprecup@cs.mcgill.ca) and cc Prof. Arbel's research associate Dr. Paul Lemaître: [plemaitr@cim.mcgill.ca](mailto:plemaitr@cim.mcgill.ca). Candidates interested in joining Prof. Arbel's lab are advised to submit their application as soon as possible (details for the program can be found in [4]).