University of Manitoba | Price Faculty of Engineering, Electrical and Computer Engineering | Rady Faculty of Health Sciences, Biochemistry and Medical Genetics

MLAIR
Manitoba Learning and Artificial Intelligence Research

Post-doctoral fellowship
Deep Learning / Computational Biology / Epigenomics / Bioinformatics

POSITION OVERVIEW:

This is an interdisciplinary position at the intersection of deep learning and computational biology. The postdoctoral fellow will work on research projects focused on developing innovative machine learning solutions for some of the core problems in **epigenomic sequence analysis** and **regulatory genomics**. The fellow will primarily be affiliated with the Department of Electrical and Computer Engineering, University of Manitoba, Canada. The project will be conducted jointly between the *Manitoba Learning and Artificial Intelligence Research (MLAIR*) lab in the Department of Electrical and Computer Engineering, *Davie Lab* in the Department of Biochemistry and Medical Genetics, University of Manitoba, along with collaboration partners from the KITE Research Institute, *University Health Network, Toronto, Canada* and the *University of Tokyo, Japan.* This position will initially be for 1 year, and based on performance, can be extended up to a maximum of 2 years. In line with University of Manitoba's post-doctoral salaries, the remuneration for this position will be $45,000 (including benefits).

QUALIFICATIONS AND EDUCATION REQUIREMENTS

- Ph.D in Computational Biology / Bioinformatics / Computer Science or related field.
- Strong background in **machine learning / deep learning** for (epi) genomic data.
- Strong publication record in the above areas.
- *Experience with epigenomic sequence analysis, Hi-C, ChIP-Seq data is a plus.*

DEPARTMENT DESCRIPTION

At the **Manitoba Learning and Artificial Intelligence Research (MLAIR) lab**, we conduct high impact research in developing novel artificial intelligence and deep learning algorithms for multi-modality data such as genomics, imaging, computer vision, robotics, machine learning and data driven discovery of radiogenomic markers of disease progression, along with hybrid neural architectures for multi-format, multi-source spatiotemporal imaging data.

Research in the **Davie Lab** focuses on understanding chromatin structure, function, and dynamics as well as the organization of chromatin in the nuclei of normal and cancer cells.

This position will be jointly supervised by Dr. Ahmed Ashraf, Assistant Professor, Department of Electrical and Computer Engineering, University of Manitoba, Canada and Dr. Shehroz Khan, Scientist, KITE Research Institute, University Health Network, Canada.

HOW TO APPLY? Interested applicants should send their applications as one single .pdf file to Dr. Ahmed Ashraf (Ahmed.Ashraf@umanitoba.ca), with the following information:

- The subject of the email should be "Postdoc MLAIR"
- Two-page CV
- Publication List
- One page Research Summary.

Position Details: http://home.cc.umanitoba.ca/~ashrafa/positions.html

ABOUT THE CITY

Manitoba encompasses prairie, boreal plains, boreal shield, taiga shield, Hudson plains, and southern arctic ecozones offering a wide range of research as well as recreational opportunities. The city of Winnipeg is located at the confluence of three rivers: Seine, the Red River, and Assiniboine. Its population is diverse, reflecting multiple waves of immigration. Its urban forest is a noteworthy treasure. Distinctive historical buildings bear witness to the city's prominence during the Wheat Boom of the late 19th and early 20th centuries, but today the city and provincial economies are diverse. Winnipeg is vibrant and affordable. It boasts a lively arts scene, including a major symphony orchestra, the Royal Winnipeg Ballet and Qaumajuq - the Inuit Art Centre at the Winnipeg Art Gallery.