

Jan 26, 2022

Position: Post-doctoral Fellow

Post-doctoral Fellow investigating Pressure-Based Gait Biometrics in the Real World

Dr. Erik Scheme, Director of the Health Technologies Lab and Associate Director of the Institute of Biomedical Engineering, is inviting applications for a post-doctoral researcher.

Project description: The postdoctoral fellow will help lead an industry-partnered, federally and provincially funded research project with Stepscan Technologies, a medical technology company that has developed the world's first and only modular pressure-sensitive flooring system, and CyberNB, a government-mandated, not-for-profit agency focused on growing the cybersecurity ecosystem. The project aims to develop a novel state-of-the-art pressure-based gait biometric system for improved user access control. For more details about the project, see here:

<http://blogs.unb.ca/newsroom/2021/08/biometric-security.php>

As part of the team, you will (1) plan and conduct controlled experiments to illustrate and address confounding factors related to a variety of covariates (e.g. multi-user, footwear, speed, path, loading, and behavior); (2) collect real-world longitudinal data at the brand new, high security Cyber Centre; (3) develop a pressure-based gait recognition system by leveraging the state-of-the-art in hand-crafted gait features, dimensionality reduction and classification algorithms, and emerging deep learning approaches (e.g. spatiotemporal models, transfer learning, etc.), and (4) disseminate your findings through journal and conference publications, and knowledge transfer with the projects partners. The primary location of the research will be at UNB Fredericton within the Health Technologies Lab and the Institute of Biomedical Engineering, under the supervision of Drs. Erik Scheme and Angkoon Phinyomark. Alternative arrangements may be considered for exceptional candidates.

Qualifications: PhD in Engineering, Computer Science, Kinesiology or equivalent within the last 5 years, strong analytical skills and proficiency using Python, Matlab, or similar machine learning/statistical tools. The successful candidate should have demonstrated experience and a track-record of publication in machine learning and/or gait analysis.

Salary Range/ Pay Rate: \$50,000-60,000 CAD per year (including benefits)

Start Date and Duration of Appointment: The position is available immediately, with an expected duration of at least 24 months

Application: Please contact Dr. [Erik Scheme](mailto:escheme@unb.ca) (escheme@unb.ca) with a PDF package that includes: 1) a 1-page letter of interest describing your qualifications and highlighting all relevant skills and experiences; 2) a current CV including a list of publications; and 3) contact information for 3 references who can speak to your academic performance and research and collaborative abilities.

Review of applications will begin immediately and will continue until the position is filled.

The University of New Brunswick is committed to employment equity and fostering diversity within our community and developing an inclusive workplace that reflects the richness of the broader community that we serve. We welcome and encourage applications from all qualified individuals including women, visible minorities, Indigenous persons, persons with disabilities, persons of any sexual orientation, gender identity or gender expression. Preference will be given to Canadian citizens and permanent residents of Canada.