Post-doctoral Fellowship at the University of Alberta in Hydrology and Machine Learning

Applications are invited for a Government of Canada and Alberta Innovates-funded one-year post-doctoral fellowship in the areas of machine learning and hydrology, with application to streamflow forecasting. Streamflow forecasting is critical for social, economic and environmental purposes, including reservoir operations, spring seeding, and evaluation of water use efficiency improvements, and can provide early warning of flooding and drought. Using machine-learning techniques, the successful candidate will develop an online, monthly, March-September streamflow forecasting tool for use by Alberta Environment and Protected Areas, a provincial government ministry.

Based at the Department of Civil and Environmental Engineering at the University of Alberta in Edmonton, Canada, the post-doctoral fellow will also interact with researchers and modellers in Computing Science, and with streamflow forecasters in the River Forecast Centre of Alberta Environment and Protected Areas. The candidate will be expected to manage the research project, including defining and delivering on timelines, track project status and team member action items, make day-to-day project decisions in alignment with project objectives, and know when to escalate decisions and issues to the larger team. In addition to development of the streamflow models, the candidate will also be expected to present research progress and results to the research team, and to write academic research papers as well as reports for funding agencies and partners.

The Department of Civil and Environmental Engineering believes that innovation, professionalism, and excellence stems from researchers who value diversity, equity, and inclusivity of perspectives and people. Preference will be given to candidates with the following qualifications,

- PhD in computing science, engineering or mathematics, with expertise in machine learning, hydrology and snow hydrology, statistical modelling, deep learning, data analytics, computer programming, hydrological/watershed modelling and model development.
- Demonstrated scientific ability through publications in peer-reviewed journals, machine learning and deep learning model development, and successful grant applications.
- Proficient in R, Python, and high-performance technical computing.
- Demonstrated ability to organize and coordinate research projects involving multiple researchers.
- Excellent communication skills, ability to work in a group environment, and a demonstrated interest in and capacity for interdisciplinary research.
- Advanced skills in problem-solving, analysis, and teamwork.

Anticipated Remuneration: Approximately $58,000/year, as well as health and dental benefits.

Review of applications will begin immediately and continue until a successful candidate is found.

Please send your CV, list of three references, and a cover letter that describes your relevant qualifications and experience to,
Dr. Evan Davies, Professor
Dept. of Civil and Environmental Engineering, University of Alberta
9211 – 116 St NW, Edmonton, AB, Canada, T6G 1H9
and email the above to evan.davies@ualberta.ca

Additional Resources: Please see the Post-doctoral fellows association website link for information about employment and benefits: https://www.ualberta.ca/research/research-support/post-doctoral-office/index.html as well as on- and near-campus day care options: https://www.ualberta.ca/facilities-operations/service-catalogue/buildings-grounds-and-environmental-services/buildings/affiliated-child-care.html. About living in Edmonton, see: https://exploreedmonton.com/