

Position Title: Full-Stack Software Developer

Program: The Enhanced Surveillance for Chronic Disease Program (ESCDP), Public Health Agency of Canada

Reports to: Prof. Vijay Mago

Contract Term: 1-year with possibility of extension

Annual Salary: \$65,000 – \$70,000 plus benefits

Hours of Work: Full-time, 35 hours/week

The Enhanced Surveillance for Chronic Disease Program (ESCDP) at YorkU:

This project, funded by the Public Health Agency of Canada, aims to develop an innovative early warning system for substance use issues, utilising advanced AI technology to monitor and analyse vast amounts of information from public sources like news and social media. Led by the Canadian Centre for Substance Use and Addiction, in collaboration with the Urban Data Centre at the University of Toronto, the system offers real-time, nationwide monitoring, enabling faster and more comprehensive detection of substance-related trends and risks. A key advantage of this system is its ability to gather specific information about underrepresented communities, such as rural or Indigenous groups, allowing for more tailored and effective interventions. By leveraging publicly available media, the system bridges information gaps in communities that lack the resources for comprehensive data collection. It also facilitates connections between those newly encountering substance-related issues and others with relevant experience. The system empowers communities to actively participate in addressing substance use issues by respecting their cultural contexts and priorities. Moreover, its AI-powered technology is adaptable and can evolve to include new populations and respond to changing needs, ensuring it remains a valuable tool for public health. In essence, this project enhances the ability to quickly and effectively identify and respond to substance use problems, benefiting public health and communities nationwide.

Job Purpose:

The Full Stack Developer will be instrumental in building and maintaining a large-scale AI-powered early warning system for substance use monitoring. This system aims to revolutionise public health surveillance and intervention across the nation. In this role, you will also assist the Principal Investigator by reporting on software development initiatives and ensuring the project aligns with its technical and strategic goals.

Major Duties:

- **System Development:** Design, develop, and maintain both front-end and back-end components of the AI-powered early warning system.
- **Data Integration:** Implement data pipelines to efficiently process and analyze large volumes of information from public media sources.
- **AI Integration:** Collaborate with data scientists to integrate AI models into the system, ensuring accurate real-time monitoring and analysis.
- **Collaboration:** Work closely with the project team, including researchers, data scientists, and public health professionals, to align technical development with project goals.

- **Scalability & Performance:** Optimize the system for scalability and performance to handle nationwide data monitoring and analysis.
- **User Interface:** Develop user-friendly interfaces that allow public health professionals to easily access and interpret the data collected by the system.
- **Security:** Ensure the system adheres to best practices in data security and privacy, particularly when handling sensitive information.

Qualifications:

- **Education:** Bachelor's degree in Computer Science, Software Engineering, or a related field. A Master's degree is a plus.
- **Experience:** Proven experience as a Full Stack Developer with a strong portfolio of completed projects, particularly in AI or data-driven applications.
- **Technical Skills:** Proficiency in front-end technologies (HTML, CSS, JavaScript) and back-end technologies (Node.js, Python, etc.). Experience with databases (SQL, NoSQL), cloud platforms (AWS, Azure), and AI/ML integration.
- **Collaboration:** Ability to work effectively in a multidisciplinary team environment, collaborating with both technical and non-technical stakeholders.
- **Problem-Solving:** Strong analytical and problem-solving skills, with the ability to troubleshoot and optimise complex systems.
- **Adaptability:** Ability to quickly adapt to new technologies and methodologies in a fast-paced, innovative project environment.
- **Security Awareness:** Understanding of data security and privacy best practices, especially in public health or sensitive data contexts.
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Application Instruction:

Please submit a cover letter and up-to-date resume to Prof. Vijay Mago, vmago@yorku.ca. This position is open until filled.