**MEMORIAL**
UNIVERSITY

**Faculty of Engineering and Applied Science**

Department of Electrical and Computer Engineering
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# Research support developer

| Term | 1–2 years, possibly renewable |
| --- | --- |
| Start date | negotiable |
| Applications received | Until position filled |

## Description

A position is available for a research support engineer to work at the intersection of compilers, dynamic tracing and operating system security in the Department of Electrical and Computer Engineering at Memorial University. The successful candidate will work with colleagues from BAE Systems and the University of Cambridge to develop compiler-based techniques for software transparency. These techniques will expose program events through instrumentation and allow software to inspect temporal and information-flow relationships among events at the thread, process and intra-process levels. The work will build on previous research exploiting temporal automata and the LLVM Intermediate Representation (IR), as well as system tracing tools such as ktrace and DTrace. This project is part of the DARPA *Transparent Computing* program, an initiative to detect and defend against advanced, persistent adversaries.

## Qualifications

Applicants should have at least a Bachelor's degree in Computer Engineering or Computer Science as well as proficiency in C/C++. An advanced degree would be an asset, as would experience with compiler construction, Clang/LLVM or operating systems internals. The successful applicant will join an international collaborative effort among Memorial, BAE Systems and the University of Cambridge; the position may require travel to the US and the UK.

Memorial University is an equal opportunity employer and is committed to increasing the diversity of its workforce. It welcomes applications from women, members of minority groups and others who would bring additional dimensions to the university's research and teaching.

## Application process

Candidates should submit a cover letter, a CV and a list of references to Jonathan Anderson (jonathan.anderson@mun.ca) at their earliest convenience.