

Michelle Wong

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Education

PhD: Electrical and Computer Engineering. University of Toronto. May 2015 - Present.

Master of Applied Science (MAsc): Electrical and Computer Engineering.
University of Toronto. January 2015.

Honours Bachelor of Applied Science (BASc) in Engineering Science:
Major in Electrical and Computer Engineering. University of Toronto. June 2012.

Skills

- Programming languages: Java, C++, C, Python, SQL, JavaScript.
- Advanced knowledge of computer security, operating systems, and compilers.
- Experienced with static and dynamic program analysis techniques and tools.

Work

May 2017 - Aug. 2017 Google Mountain View, CA

Software Engineering Intern, PhD

- Designed and implemented static detection of command-and-control (C&C) malware on Android for the mobile malware team, and detected new cases of malware.

June 2013 - Aug. 2013 Apple Cupertino, CA

Apple Intern (Mac OS X Software Development)

- Implemented hand gesture detection framework on OS X, using camera input to control the user interface.

May 2012 - Aug. 2012 BlackBerry / Research in Motion Mississauga, Canada

Junior Software Developer, Intern

- Implemented developer APIs for the BlackBerry WebWorks SDK platform, including: push notifications, file transfer, and contact information.

Publications

M. Y. Wong and D. Lie. **Tacking runtime-based obfuscation in Android with TIRO**. In *27th USENIX Security Symposium (USENIX Security)*, 2018.

- Identifies a new family of runtime-based obfuscation techniques on Android that subverts the code loading and execution processes in the runtime.
- Proposes TIRO, a hybrid iterative Android deobfuscator (<https://github.com/miwong/tiro>).

M. Y. Wong and D. Lie. **IntelliDroid: A targeted input generator for the dynamic analysis of Android malware**. In *23rd Annual Network and Distributed System Security Symposium (NDSS)*, 2016.

- Employs a novel hybrid of static analysis, constraint solving, and dynamic analysis to extract call paths to malicious behavior and reliably execute them during run-time.
- Open-sourced at: <https://github.com/miwong/IntelliDroid>.

Awards

- Natural Sciences and Engineering Research Council of Canada (NSERC) CGS-D Graduate Scholarship (2016-2019).
- NSERC CGS-M Graduate Scholarship (2012).
- General Electric (GE) Foundation Scholar-Leaders Award in Canada (2008-2012).
- Research in Motion (BlackBerry) Internship Award (2011).

Activities

- External reviewer for security conferences: Usenix Security, NDSS, ACM CCS, and IEEE S&P (2014-Present).
- Red Cross Youth Group at the University of Toronto (2008-2012).
- Women for Science and Engineering (WISE) at the University of Toronto (2007-2012).