

# Rana Khalil

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## EDUCATION

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- **Master of Computer Science - Thesis Option (2018)** University of Ottawa  
*Thesis: Comparative Analysis of Open-source Black-box Web Vulnerability Scanners.*
- **Joint Honors Mathematics and Computer Science (2016)** University of Ottawa  
*Honours Project: Scale Invariant Fully Homomorphic Encryption Over the Integers.*

## EXPERIENCE

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- **University of Ottawa** Ottawa, ON  
*Teaching Assistant* Sept. 2016 - Aug. 2018  
Taught weekly lab/tutorial sessions, held weekly office hours, marked theory and programming assignments and proctored midterms and final exams. Courses taught include Data Structures (CSI2110), Discrete Structures (CSI2101), Databases I (CSI2132) and WWW Structures, Techniques and Standards (CSI3140).
- **Trend Micro and NSERC** Ottawa, ON  
*Ransomware Researcher* Oct. 2016 - Apr. 2017  
Performed dynamic and static analysis using IDA Pro and Volatility on a specific type of ransomware. Identified the given ransomware functionality and properties for detection and recommended countermeasures to mitigate risk. Produced a technical analysis report summarizing malware analysis results.
- **2Keys** Ottawa, ON  
*Junior Software Developer / Security Analyst* Jan. 2016 - Aug. 2016  
Developed and maintained a test suite in Java that ensured the given web application performs properly according to design specifications. Conducted penetration testing / vulnerability assessment on the web application. Created and delivered security training on techniques in ethical hacking using Burp Suite.
- **Innovation, Science and Economic Development (ISED) Canada** Ottawa, ON  
*Software Developer* May 2015 - Dec. 2015  
Developed a test suite in PostgreSQL and Python to validate decisions made by the FCC for re-purposing the 600 MHz band. Created an interface in HTA to incorporate the validation programs for easier use.
- **Canada Revenue Agency (CRA)** Ottawa, ON  
*Tester* May 2013 - Aug. 2013  
Designed and executed test cases for the Cost Management & Estimating Tool for Solutions (CoMETS) web application. Participated in an agile approach in developing functional requirements for the design of CoMETS application. Documented user guides and reference sheets to facilitate easier use of the application. Created and delivered training on IBM Rational Functional Tester (RFT) that included a tutorial manual, videos and demos to colleagues.

## TECHNICAL SKILLS

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**Programming Languages:** Java, JavaScript, Python, HTML, CSS, PostgreSQL, Bash, LaTeX.

**Tools:** Burp Suite, OWASP ZAP, Arachni, skipfish, Vega, Wapiti, BeEF, NMap, tcpdump, John the Ripper.

## LEADERSHIP ROLES

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- **Vice Chair** | UOMSA Orphan Sponsorship Initiative 2016
- **Peer Mentor** | Women Startup Network 2015
- **VP Academic** | IEEE University of Ottawa Student Branch 2014
- **Vice Chair** | IEEE University of Ottawa Student Branch Women in Engineering (WIE) 2013