Kevin Li

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Education

- **Master of Science, Software Engineering, McGill University**
  McGill Engineering Undergraduate Student Master's Award (MEUSMA)
  CGPA: 4.0/4.0
  Thesis: *Checked-in secret detection in Android apps: looking to the future, reflecting on the past.*
- **Bachelor of Engineering, Computer Engineering, McGill University**
  Mes bourses d'excellence Sci scholarship
  CGPA : 3.75/4.0
- **Diploma of Collegial Studies (DEC), Nature Science, CEGEP de Chicoutimi**
- **Fluent in English, French and Chinese Mandarin**

Research

Demystifying Device-Specific Compatibility Issues in Android apps

- Conduct an empirical study to analyze Android apps exhibiting device-specific failures. Contribute to the design and implementation of large-scale experiments across diverse device configurations. Identify root causes of compatibility issues and categorize them into recurring patterns, offering actionable insights for improving app robustness across the Android ecosystem.

Detecting Leaked Cloud Checked-in Secret

- Develop an automated machine learning framework to detect and extract cloud service secrets from software projects, achieving a more accurate and lightweight model through the design of novel feature extraction techniques.
- Implement and extend existing secret detection tools for Android applications; conducted an empirical study evaluating their performance across real-world datasets and discovered 2,142 instances of leaked checked-in secrets.

Code Summarization with Obfuscated Code

- Develop an automated machine learning framework to detect and extract cloud service secrets from software projects, achieving a more accurate and lightweight model through novel feature extraction techniques designed to reduce reliance on large, language-specific datasets and better handle cross-language variability.

Publications

Automatically Detecting Checked-In Secrets in Android Apps: How Far Are We?: First Author, submitted to **EMSE 2025,** under major revision

- An empirical study aimed to examine different secret detection techniques when applied to Android Apps in APK format. Analyzing their limitations and propose new research direction.

Demystifying Device-Specific Compatibility Issues in Android apps: Second Author, published on ***ICSME 2024***

- An empirical study aimed at examining the various characteristics of device-specific compatibility issues, with the goal of providing valuable insights and directions for future research.

How far are App Secrets from Being Stolen? A Case Study on Android: Fourth Author, published on **EMSE 2025**

- A systematic study to characterize app secret leakage issues in Android apps based on 575 potential app secrets, assessing their security impacts and disclosed app bad practices in storing app secrets.

Technical skills

Programming Languages: JAVA, C, C#, Python, SQL, HTML, JavaScript, CSS, VHDL

Tools and Framework: Git, Spring, Maven, Redis, React, Rest, AWS, Heroku, Docker

Volunteer Experience

- **Student Volunteer – ICSE 2025**
- **Student Volunteer – SANER 2025**

Work experience

- **Research Assistant: McGill** ***06/2025-present***

- **Teaching Assistant of ECSE 250 Fundamentals of Software Development: McGill** ***01/2024 –04/2025***
  Task: Teach basic Java concepts, create assignments and unit tests, prepared tutorial slides, and graded midterm and final exams

- **Teaching Assistant of ECSE 211 Design Principles and Methods: McGill** ***09/2024 – 12/2024***
  Task: Grade assignments and assist students in building BrickPi-based robots

- **Associate Developer: TekSystem** ***05/2022 – 08/2022***
  Task: Update the system of an existing software for a clinic, leveraging Java and .NET Framework.

- **Navy Reservist: Canadian Armed Force** ***07/2017 – 08/2022***