Jiacheng, Li

Contact: 12012705@mail.sustech.edu.cn
Website: https://main--jiachengli.netlify.app/

Education

Sep 2020 - Present	**Southern University of Science and Technology (SUSTech)** Bachelor of Computer Science *GPA: 3.88/4.0 RANK: 9/220*	Shenzhen, China
Aug 2023 - Present	**National University of Singapore (NUS)** Semester Exchange Student	Singapore

Research Experience

Jan 2023 – Jul 2023	**Towards the Adoption and Adaptation of the AndroidX Library: An Empirical Research** *Co-first Author, accepted by the 23rd IEEE International Conference on Software Quality, Reliability, and Security* **Summary:** Our study focuses on the AndroidX library, a pivotal resource for ensuring backward compatibility, surpassing the Support Library. We delve into developers' prevalent issues and causes regards AndroidX, explore its adoption status across top used apps, and establish comprehensive class mappings bridging AndroidX and Support Library. Our research yields essential insights into the Android ecosystem, highlighted by:

- Identification of frequent developer-reported issues
- Creation of an extensive mapping between Support Library and AndroidX
- Investigation over 15000 Android Apks

Jan 2023 – Jul 2023	**Towards a Better Understanding of the Official Android API Lists** *Third Author, under review by IEEE Transactions on Software Engineering* **Summary:** Android apps rely on the Android framework, which provides a set of APIs that abstract the system's functionality. These APIs are documented in Android API Lists (AALs). A comprehensive study was conducted on four official AALs generated through different means. Our study revealed instability and inconsistency among the AALs, emphasizing the need for a rational approach when using official Android API lists. My work involves:

- Collection of a comprehensive APK dataset
- Application of the static analysis tool Soot to extract Android APIs employed within the APK set
- Develop of an Android App for real-device testing of API existence

Jul 2022 – Dec 2022	**Face-changing malicious Android app Detection** *First patent holder, CN Patent Application 2023108428914 filed July 2023, Patent Pending* **Summary:** Our research targets face-changing apps that adopt malicious behaviors under specific circumstances, executing functions such as information theft and abusive advertising. To tackle this challenge, we've developed a novel method that employs static analysis through taint analysis, accompanied by an extensive dynamic analysis strategy. Key highlights of our work encompass:

- Concurrent utilization of static and dynamic analyses
- Introduction of the innovative runtime environment pool concept

Achievements

Oct 2021 Oct 2022	**First Class Scholarship** *Southern University of Science and Technology*
Jul 2022	**Best Innovation award in the Global Engineer Talent Research and Innovation Summer School** *Southern University of Science and Technology* • Smoothing the electromyographic signals to control prosthetic limbs • Combination of deep learning and traditional signal processing.
Jan 2022	**Outstanding Volunteer in Summer Social Practice** *Guangdong Provincial Department of Education* • Led a team in a teaching volunteer program, benefiting 100+ children • Orchestrated curriculum scheduling and managed volunteer coordination

Work Experience

2023 Aug – 2023 Dec	**Data analyst intern** *Auristone (Singapore Start-up Company)* The company specify in advanced biology techniques and employing robust machine learning algorithms to analyze intricate genetic data. My role includes: • Improved data quality to enhance the reliability of model outcomes • Developed ML models using gene features for predicting cancer types • Conducted testing on module functionalities

Other Experience

2023 Aug - Present	**Exchange student - NUS Overseas Colleges program** • Participated entrepreneurship-focused courses, gaining insights into business strategy and market analysis • Engaged in cross-cultural collaboration and hands-on projects
2022 Feb – 2023 Jun	**Teaching assistant - SUSTech Computer Science Department** • Developed lesson plans and assignments for 50 students across Java Programming and Computer Organization courses • Managed assignment deployment on an online platform, facilitating efficient evaluation processes
2021 Sep – 2022 Jun	**Senior tutor - SUSTech Administrative College** • Guided and mentored a group of 30 freshman students • Provided valuable support in their transition to university life, offering advice on daily routines and effective study strategies • Orchestrated various college activities to enhance student engagement and community involvement

Skills Proficiency

Programming language	Java, Python C/C++, MATLAB, Bash, Mips assembly	Proficient Intermediate
Website development	HTML, CSS, JavaScript SpringBoot, VUE	Intermediate Intermediate
Database	MySQL, PostgreSQL	Intermediate
Others	Git, Vim, Latex, Verilog Android, Soot	Intermediate Basic