

TECHNICAL EXPERIENCE

Visa, **Cybersecurity Analyst, Mobile & Mac Security (MMS) Team** May 2023 — Present

- Conducted comprehensive pentesting on Visa's Android and iOS assets using techniques BurpSuite, Frida, Jadx with OWASP Top 10 to identify security vulnerabilities
- Developed novel scripts/tools using Frida, Python to bypass mobile detection measures (e.g. Root Detection, SSL Pinning, etc.)
- Led Mobile Security Trainings for software teams, educating on secure mobile coding practices and common vulnerabilities
- Implemented an AI Chatbot that analyzes generated reports using Text Embeddings and Cosine Similarity, and recommends remediations and predicts possible vulnerabilities
- Developed a mobile view emulator with Ionic and Docusaurus for an interactive CTF-style training portal, enabling software teams to learn secure coding practices
- Led end-to-end development and deployment of an internal standup portal webapp using PERN stack and Material UI, streamlining task documentation for cross-functional team of 12
- Collaborated in a two-week code challenge to develop a Visa Developer Portal Chatbot with Generative AI, enabling developers to generate visuals and API integrations efficiently.
- Technologies: **Javascript, ReactJS, NodeJS, MermaidJS, Java, Swift, Kotlin, Frida, Jadx, MobSF, BurpSuite, ExpressJS, PostgreSQL**

DSO National Laboratories, **Cybersecurity Research Intern, Cybersecuti Lab (Information Division)** May — Aug 2022

- Researched on **Living-Off-the-Land Binaries (LOLBins)**, **Binary Analysis**, **Reverse Engineering** on Windows 10 Enterprise Machines for the building of Automated Penetration Testing
- Implemented **Pre & Post-exploits** for Windows 10 Enterprise Machines using **Covenant C2**
- Designed and implemented pentesting tools using **Python**, **PowerShell** and **Bash** to automate manual pentesting, saving over multiple days to perform static analysis on LOLBins vulnerabilities on Win10
- Developed new techniques & tools to enhance effectiveness of LOLBins exploits using **MITRE ATT&CK** frameworks

MQ Spectrum, **Software Engineer Intern, LMS Development Team** May 2017 – May 2018

- Development, integration and maintenance of web-based applications Learning-Management-System (LMS) using **Moodle**, **PHP**, **HTML**, **CSS**, **MySQL**
- Refined performance, functional, regression and unit-tests using **Selenium** for running multiple tests across browsers and OS, saving up to 20 hours per week of manual testing
- Planned and established the company's technical program for on-boarding of new interns that includes Software Development, SDLC, Version Control and Unit Testing

EDUCATION

BSc. Honours Computer Science, *National University of Singapore - NUS Sports Scholarship* Aug 2020 — Dec 2023 (Expected) **Specialisation:** *Computer Security, Networking & Distributed Systems*

Leadership & Activities:

- Teaching Assistant:** IS1108 (Digital Ethics and Data Privacy) AY 22/23
- NUS Aquathlon:** Varsity Athlete
- NUS Sports Club:** 42nd MC - Vice-President (External), 41st MC - Project Director (RunNUS 2021)
- Visa Sustainability Case Competition 2023:** Asia Pacific Champions (EcoEnable)

PROJECTS

Project Help **Swift, Objective-C, Java, Android Studio, Xcode, MySQL**

- Developed a 1-Click volunteer service mobile application for facilitation of elderly service requests
- Implemented regenerative pay-it-forward point system for users to use for other service requests

Traffic Surveillance Application **Java, Android Studio MySQL, OBD2 Controllers**

- Developed a mobile application to facilitate the process of monitoring SAF transport operators on public roads
- Executed mock trials and achieved a 100% violation detection rate compared to the 66% by vehicle commanders
- Pitched idea to panel of 12 education/industry experts that made it to the national finals of LHL Interactive Media Award 2017

SKILLS

Tools and Languages	Java, Python, NodeJS, C, C++, SQL, PHP, Bash. Git
Databases	MySQL, PostgreSQL, MongoDB, Firebase
Web Development Technologies	JavaScript, ReactJS, ExpressJS, HTML/CSS, Bootstrap, Material UI
Communication	BurpSuite, Jadx, Github, Git, Apache, Vim, \LaTeX , SourceTree, Figma
	English (Fluent), Mandarin (Fluent)