

## EDUCATION

**BSc. Honours Computer Science**, National University of Singapore - NUS Sports Scholarship Aug 2020 — Dec 2023 (Expected)

**Specialisation:** Software Engineering, Computer Security, Networking & Distributed Systems

**Relevant Coursework:** Software Engineering, Data Structures and Algorithms, Object-Oriented Programming, Operating Systems, Computer Security, Computer Networks

### Leadership & Activities:

- **Teaching Assistant:** IS1108 (Digital Ethics and Data Privacy) AY22/23
- **NUS Sports Club:** 42nd MC - Vice-President (External), 41st MC - Project Director (RunNUS 2021)

## TECHNICAL EXPERIENCE

**Visa** 16 May — 4 Aug 2023

*Software Security Engineer Intern, Mobile & Mac Security (MMS) Team*

- Performed ethical penetration testing on various Visa mobile and Mac assets to simulate real-life security vulnerabilities and scenarios
- Developed tools and frameworks required performing advanced and complex mobile security assurance and ethical hacking activities
- Analyzed security gaps in mobile technologies and frameworks that lack standard validation methodologies and incorporate remediation practices to reduce risk posture of Visa products and assets.
- Technologies: Python, NodeJS, Java, Swift, Kotlin JavaScript, Objective-C

**DSO National Laboratories** May — Aug 2022

*Software Security Engineer Intern, Cybersecuti Lab (CSL)*

- Researched on **Living-Off-the-Land Binaries (LOLBins)**, Binary Analysis, Reverse Engineering for Penetration Testing on Windows 10 Enterprise Machines
- 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

**United Overseas Bank** May — Aug 2021

*Banking Technology Associate Intern, Group Technology Operations (GTO)*

- Monitored, analyzed and developed release data of security patches/fixes and its implementation status
- Automated the creation release deployment packages in QA and Production Environments through CI/CD Pipelines using **Bash** which minimises the tedious manual work per deployment
- Automated the tracking and retrieval of large influx (>30k) of daily bug reports and issues using **Bash** and **VBA**, saving an average of 10 hours per week of manual filtering and reporting work

**MQ Spectrum** May — Aug 2017; Mar — May 2018

*Software Engineer Intern, Software Development Team*

- Development, integration and maintenance of web-based applications 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

## 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 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 educational and industry experts that got to the finals of LHL Interactive Media Award 2017

## SKILLS

<b>Tools and Languages</b>	Java, Python, C, C++, SQL, PHP, Bash, Git
<b>Databases</b>	MySQL, SQLite, Firebase Storage
<b>Web Development Technologies</b>	JavaScript, TypeScript, HTML/CSS, Bootstrap
<b>Technologies</b>	Github, Git, Apache, Vim, $\text{\LaTeX}$ , SourceTree, Figma
<b>Communication</b>	English (Fluent), Chinese (Fluent)