

Chih-Hsuan Yang 楊志璿

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Education

B.S. in Computer Science and Engineering

Kaohsiung, Taiwan

National Sun Yat-sen University (NSYSU)

Sep. 2018 - Jun. 2022

- Awardee of scholarships by information security
- MOST Research Grant for Undergraduate Students 獲科技部大專學生研究計畫補助
- **Best Paper Award Candidate:** [The Container Security in Healthcare Data Exchange System](#)
- Researcher in [Information Security Lab](#) (mentor: Chun-I Fan) for 3 years.

Work Experience

Senior R.D. Engineer

Taipei, Taiwan

Engine Team, TeamT5

Oct. 2022 - present

- **Advancement and Leadership:** Promoted to Senior within **3 months** due to exceptional problem-solving skills and leadership capabilities. Currently, lead a team of 4 juniors.
- **Across Platforms:** Led the maintenance of a cross-platform compatibility codebase, ensuring seamless operation across **3 major operating systems** over 2 decades.
- **Efficiency in Testing:** Designed and implemented a testing framework, reducing testing times from over **5 hours to 15 minutes**, boosting productivity.
- **Performance Optimization:** Enhanced system capacity for **3+ million** simultaneous requests, optimized critical routine **over 12 times** faster.
- **Code Contributions:** Independently contributed to **40%** of the codebase in the last year (10 members).
- **Addressing Long-Standing Inequities:** Resolved a major memory leak that had gone undetected for 7 years, affirming a commitment to the long-term quality for all users.
- **Efficiency CI:** Reduced the CI runtime from **2 hours to 30 minutes**.
- **Refactoring:** Spearheaded the modernization of **10,000+ pieces** of legacy code, ensuring accessibility, maintainability, and sustainability.

Club's Founding President

Kaohsiung, Taiwan

Information Security Club, NSYSU

Sep. 2019 - Jun. 2021

- Led **6 members** to cooperate 2 server for **over 25 containers** and growing to **100 people**.
- Taught **more than compulsory's** number of people in our club (over 100 students).
- **Introduced security guides for campus affair office.**
- Developed Club's server with Golang and MongoDB.

Open Source Projects

- [VMPilot](#) is an advanced SDK employing post-quantum cryptography and compile-time/runtime obfuscation within a secure-by-design virtual machine to shield software from reverse engineering.
- [Facebooc](#) is a comprehensive C-based proof of concept of a Facebook clone, showcasing end-to-end development from TCP socket programming to user interface design.
- [scalable_wg](#) is a compact PoC for a scalable WireGuard server, designed to support over 5000 connections even on NT1000 hardware. It uses around 100 lines to efficiently load-balance and manage WireGuard tunnels.
- [Sonar \[C\]ernel Commander \(SCC\)](#) is an advanced Linux kernel module that specializes in syscall hooking and event logging. Designed with performance and extensibility in mind.
- [gcc \(libstdc++\)](#) contributes about performance optimization for the GCC standard library, from $O(N^2)$ to $\Theta(N)$. (ongoing)
- [spdlog \(19k, Gabime\)](#) fixes an I/O inconsistency issue in the spdlog library.
- [cpprestsdk \(7.5k, Microsoft\)](#) resolved a UTF-16 decoding issue, preventing overflow exceptions during serialization.

Non-Open Source Projects (Personal research)

- **Kernel Rootkit** is a Linux kernel rootkit that hides kernel modules, zero-file-landing processes. Which is also a deep study of kprobes, signal handling, input-event subsystem, kernel hacking etc.
- **DynamicLinkingLinux** is a DLL-injection technique for Linux, injecting shared objects into running processes to modify their behavior. (developing)

Writing

The Container Security in Healthcare Data Exchange System

Linux Kernel Scheduler Internals

The Linux Kernel Module Programming Guide

Debian Reference

CISC2022

GitHub

GitHub

Debian official Salsa