


Yuuta Liang

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Basic Information

- Started coding and electrical designing in grade 3 (2013), enjoy designing and debugging computer programs, and love to solve real-life problems with computer programs and hardware.
- Focused on Android app development since 2016, published multiple popular apps on AOSP system optimization, with more than 30,000 active users.
- Familiar with Unix (POSIX) development, developed several Unix command line tools and backend programs.
- Have been using Arch Linux since 2019, good at Unix-like systems and the Unix shell.
- Experienced in system administration and network engineering, had been running Unix servers for years, able to fix many server and network issues.
- Good at learning by doing and teaching myself the needed computer science topics for my projects.
- Especially interested in low-level development and computer systems, ranging from native libraries and operating systems to CPU, memory, and electrical design. Beside systems and architecture, I am also eager to learn more about computer networking and system administration.

Education

University of British Columbia 2022 / 09 – Present
Bachelor of Science Vancouver, BC, CA

- GPA: Cumulative 89.6 / 100.0, current year (2023 ~ 2024) 90.8 / 100
- Courses Taken: Computer Systems, Algorithms, C, Racket, Discrete Mathematics, Software Engineering, Introduction to Data Science

Work Experience

PLCT Lab, Institute of Software, Chinese Academy of Sciences 2023 / 06 – 2023 / 09
Intern in the AOSP group Beijing, China

- Worked on porting `libvpx` C routines into RISC-V Vector (SIMD) intrinsics.
- Learnt RISC-V assembly, toolchain, development environment, and basic SIMD intrinsics.

Projects

AS142281 and private cloud (yuuta.network) as System administrator 2020 – Present
Specs: WireGuard, dynamig routing protocols, Active Directory, VMware vSphere, Proxmox VE

- A private cloud built upon BGP and VMware vSphere, enabling me to spin up cheap cloud servers at home, satisfying all of my server requirements.
- Initiated in 2020, I had been expanding this project continuously, and I learnt system administration skills by doing. It is still experiencing stability and performance issues, but I am trying to improve.

Android app: MiPushFramework ([GitHub](#)) as *Founder and lead developer* 2018 – 2020

Languages: Java, Kotlin

Specs: Android Binder IPC, Android System Server, AIDL, Java Class Loader, Java Reflection, Hook

Performance: GitHub 2,100 stars, 30,133 lines of code

- Dramatically increased RAM usage for apps using Xiaomi push SDK by reverse-engineering and porting Xiaomi system components using hooks.

Android app: Dir as *Founder and lead developer* 2017 – 2020

Languages: Java, Kotlin

Specs: Vert.x, Android storage system, Docker

Performance: 30,000 monthly active users (2019), C\$ 600 monthly income for in-app purchase

- An Android storage cleaning app that has a community-based ruleset and Vert.x-based backend. The ruleset comes from user contribution is reviewed by developers.
- The ruleset mainly focuses deleting tracking IDs and advertisements that protects user privacy.
- With a beautiful GUI and a unique feature that prevents deleted files from being created again, making it very popular in the Chinese Android hacking community.

Android app: Rome Map as *Founder and lead developer* 2016 – 2017

Languages: Java

Specs: Android map SDK, PaaS database

- An Android map and navigation app that combines navigation feature from three different Chinese map providers, so users don't need to switch from map apps to choose the best route.
- Integrates multiple map SDKs and supports both voice navigation feature voice search.

Electrical project: Smart Flower Pot as *Founder and main designer* 2013 – 2015

Specs: Analog circuit, triode, relays, digital circuit, logical gates

Award: First place in the Chinese National Youth Electronic Designing Championship, elementary students group (2014), 97 / 100

- Automatically water the flower based on soil moisture.
- Designed completely in analog circuits, using moisture sensor and triodes to control relays. Also has a seven-segment water counter driven completely by 74LS logical gates. The circuit is designed and simulated in Multisim.

Skills

- **Programming Language:** C# (2013), Java 8 (2016), POSIX Shell (2020), C11 (2021), Makefile (2021), RISC-V Assembly (2023).
- **Development Environment:** .NET Framework development (2013), Android app development (2016), AOSP system development and IPC mechanism (2017), POSIX program development (2021).
- **Unix:** Arch Linux user (2019), FreeBSD user (2022), good at Unix command line and systemd.
- **System Administration:** Nginx (2017), Docker (2018), Unix and Linux (2019), Microsoft Active Directory (2019), Kerberos (2021), OpenLDAP (2021), VMware vSphere (2022).
- **Network Engineering:** EdgeRouter (2020), BIRD2 Routing Daemon (2021), DN42 AS4242422980 (2021), AS142281 (2021), 2404:f4c0:f9c0::/44 (2021), AS212347 (2022), 2a0d:2580:8000::/35 (2024).
- **Version Control and Tooling:** Git (2016), Vim (2018), Tmux (2020).

Last updated in May, 2024