

Lihao Cao

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Shanghai



EDUCATION

- Shanghai Jiao Tong University** Sep 2023 - Mar 2026
Software Engineering Master
- Member of [IPADS \(Institute of Parallel and Distributed Systems\)](#)
- Wuhan University** Sep 2019 - Jun 2023
Software Engineering Bachelor

PROJECT EXPERIENCE

- ChCore: A domain-specific microkernel OS developed by IPADS** Oct 2022 - Present
- Kernel and User-space programming. Code maintenance.
 - Owner of ChCore filesystem subsystem.
 - Implemented an in-memory filesystem tmpfs in ChCore.
 - Added file permission support to ChCore's tmpfs.
 - Added security features (e.g. ASLR, stack canary, PXN/WXN) into ChCore.
- OpenTrustee: An open source Trusted Execution Environment (TEE) solution for OpenHarmony** Jun 2023 - Present
- Open sourced at [OpenTrustee Kernel](#).
 - Developed a build system for OpenTrustee kernel and framework.
 - Developed a PIN authentication demo using OpenTrustee, including a REE side Client Application (CA) and a TEE side Trusted Application (TA).
 - Developed a fuzzing framework for TAs.
 - Secure Storage on eMMC. Developing a TEE driver that enables secure storage on customized eMMC storage.

INTERNSHIP EXPERIENCE

- Huawei Technologies Co., Ltd** Apr 2024 - Aug 2024
Operating System Development Engineer Shanghai
- Responsible for the refactoring of UDK sysfs in the HongMeng kernel.
 - Refactored sysfs to a system with improved design, implementation, and usability.

SKILLS

- Programming Languages:** Familiar with *C*, *Modern C++*, and *Python*. Experience of writing *Java*, *Go*, and other programming languages. Understanding *x86_64* and *aarch64* assembly and ISA.
- System-Level Programming:** Familiar with *Linux kernel* infrastructure, *kernel-space development*, POSIX APIs, *file systems*. Experience in writing Linux kernel modules and understanding Linux kernel source code.
- Computer Security:** Experience of *TEE development* (TEE OS and framework), *TrustZone* specifically. Familiar with common security techniques.
- Toolchains:** Familiar with *compilers* (gcc and clang), *linkers*, GNU binutils, ELF format, *build systems* (e.g. *Makefile*, *CMake*, *ninja*, *GN*, *Yocto*).

SUMMARY

- A **passionate programmer** focused on writing **elegant and efficient** code.
- Solid background in **System Programming**. With a strong interest in Computer Systems.
- Experienced in both **kernel and user-space system-level programming**. Experienced with **TEE and filesystem development** in particular.
- Good **communication skills** and **easy to collaborate with**.