WenBin Xu

EDUCATION

Nankai University, Department of Computer Science   Tianjin，China

Bachelor of Computer Science, GPA：3.87/4.00   Sep. 2020 - Jul. 2024

Thesis：Design and Implementation of Network Simulation Platform for Edge-Terminal Collaborative Computing

TECHNICAL SKILLS

Mathematical Proficiency：Strong analytical and problem-solving skills with a solid foundation in mathematics. Scored 93, 95, 97 in Linear Algebra, Probability Theory, Discrete Mathematics respectively.

Programming Skills：Familiar with programming languages such as C++, Python and Verilog. First Prize in the National Olympiad in Informatics in Provinces(NOIP).

Language Skills：Fluent in English with basic proficiency in Japanese. Pass CET4(College English Test Band 4) and CET6(College English Test Band 4), achieve Level 3 in the CJT4 (College Japanese Test Band 4).

OPEN SOURCE PROJECTS

SysY Compiler 🔗   Mar. 2023 - Sep. 2023

First Author & Maintainer

- Full-stack implementation of a simple compiler translating SysY Language to Armv7 Assembly Code.
- Implemented in C++, utilizing Flex and Bison for lexical and syntax analysis. Choose LLVM IR as the intermediate code.
- Implement various code optimization algorithms, such as common subexpression elimination, sparse conditional constant propagation, dead code elimination, loop optimization and so on.
- Awarded second prize in the compiler design track of national computer system capability competition.

Zram on Upmem 🔗   Jun. 2023 - Sep. 2023

First Author & Maintainer

- A demo that migrates compression functionality of Linux kernel module zram to the upmem device, leveraging its in-memory computing architecture for enhanced performance.
- Awarded third prize in the os design functional challenge track of national computer system capability competition.

PROFESSIONAL EXPERIENCES

SAST (Static Application Security Testing) Development Intern in Sectrend   Mar. 2024 – Jul. 2024

- Implement custom clang static analyzer checkers to detect CWE vulnerabilities in C/C++ code.
- During the internship, implemented checkers for detecting vulnerabilities related to CWE377, CWE390, CWE396, CWE397, CWE480, CWE481, CWE482, CWE570, CWE571, and CWE758.

AWARDS AND HONORS

Academic Excellence Scholarship, Nankai University

Gong Neng Scholarship, Nankai University

Jiuwu Zhixin Scholarship, Nankai University

Second Prize in the Compiler Design Track, National Computer System Capability Competition

Third Prize in the OS Design Functional Challenge Track, National Computer System Capability Competition

CAMPUS INVOLVEMENT

Staff Member, Extracurricular Activities Guidance Center, Nankai University   Sep. 2020 – Jun. 2021

Teaching Assistant for Compiler Principles Course, Nankai University   Sep. 2023 – Jan. 2024