Ziyue Pan

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Introduction

I am a graduate student of Computer Science at Zhejiang University expected to graduate in 2025. I'm working with Prof. Wenbo Shen. My research interest revolves around **system security and software security**.

Education

Zhejiang University, Hangzhou, Zhejiang — Sep. 2022 – Present
Master of Engineering in Computer Science of Technology

Zhejiang University, Hangzhou, Zhejiang — Sep. 2018 – June. 2022
Bachelor of Engineering in Computer Science and Technology, *GPA: 4.34/5*

Publications

- (**TDSC**) Ambush from All Sides: Understanding Security Threats in Open-Source Software CI/CD Pipelines. [Paper][Code]
  Ziyue Pan, Wenbo Shen, Xingkai Wang, Yutian Yang, Rui Chang, Yao Liu, Chengwei Liu, Yang Liu, Kui Ren
  IEEE Transactions on Dependable and Secure Computing (TDSC)

Honors and Awards

National Scholarship for Graduate Excellence	Oct. 2023
2nd Prize of the 6th Loongson cup National Student Computer System Capability Challenge	Aug. 2022
1st Prize of Dream cup Chinese Youth IC Technology Compitition	Apr. 2022

Projects

- **Cloud-Nativeness Failure**. Inspired by issues encountered during legacy system migrations to Kubernetes, I developed a fault injection framework to test specific cloud-nativeness failure patterns.
- **OpaqueSolver**. OpaqueSolver is a novel rule-based type-inference framework that provides accurate types for the LLVM IR with opaque pointers. Compared with the ground truth generated by CodeQL, it achieves accuracy and coverage rates of 97.53% and 92.89%.
- **CIAnalyser**. Analyser for the security of CI usage in OSS projects, the corresponding tool of our paper: "Ambush from All Sides: Understanding Security Threats in Open-Source Software CI/CD Pipelines". It is intended to crawl repositories with OSS CI configured and analyze the security properties.
- **GNC** (**G**NC is **N**ot **C**). Based on the principle of being explicit and simple, I developed this customized C-like language with **rust** and **LLVM**, as the course project of Compiler Principle.

Skills

- **Programming**: C/C++, Go, Python, Rust
- **Cloud & DevOps**: Kubernetes, Docker, Jenkins, GitHub Action
- **Low-level System**: Linux Kernel, Chisel, RISC-V
- **Tools**: QEMU, GDB, Git, LLVM, CodeQL, LaTeX, Vim