YICHENG LIU

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No.800, Dongchuan road, Minhang district, Shanghai, China

Education

Shanghai Jiao Tong University 09/2020 – present

Bachelor of Engineering Shanghai

- GPA in the past 3 years：90.45/100（rank 1/61）
- Relevant Courses: Introduction to Computer System, Computer System Engineering, Operating System

Relevant Experience

Shanghai Jiao Tong University - Institution of Parallel And Distributed Systems (IPADS)

- Development of an autopilot system based on the micro kernel operating system.
- Development of various sanitizers in the micro kernel operating system, including KASAN, KMSAN, and KCSAN, to enhance system security and stability.
- Engagement in container security research, entailing the design of container security strategies as well as investigation and replication of Common Vulnerabilities and Exposures (CVEs) to verify security measures.

Shanghai Jiao Tong University - John Hopcroft Center

- Development of a comprehensive traffic simulation system capable of processing large volumes of data and simulating traffic flow at scale. This involved integrating data pre-processing capabilities into the system to ensure accurate results.
- Investigation in offline reinforcement learning algorithms for traffic signal control (TSC), which involved investigating and developing new approaches to enhance the efficiency and effectiveness of TSC. As a result, there is two papers in proceeding.

Shanghai Jiao Tong University - intelligent Computer Architecture Technology

- Development of the automatic image dataset collecting method using GTA engine.

Publications

- [**ICASSP22**] Zefang Yu; Yangcheng Li; **Yicheng Liu**; Ting Liu; Yuzhuo Fu. Synpose : Large-Scale and Densely Annotated Synthetic Dataset for Human Pose Estimation in Classroom
- [arXiv] Chumeng Liang, Zherui Huang, **Yicheng Liu**, Zhanyu Liu, Guanjie Zheng, Hanyuan Shi, Yuhao Du, Fuliang Li, Zhenhui Li. CBLab: Scalable Traffic Simulation with Enriched Data Supporting
- And two papers in proceeding…

Honors & Awards

- 2021-2022 National Scholarship
- 2021-2022 The First Prize Scholarship
- 2020-2021 The third Prize Scholarship
- 2021-2022 Merit Student
- The First Prize in 2022 Embedded chip and system design competition
- The Third Prize in 2021 China Undergraduate Mathematical Contest in Modelling

Personal Statement

As a motivated student, I have independently developed several engineering projects driven by my personal interests. During my freshman year, I constructed a mini basic interpreter that supported arithmetical operations, conditional statements such as if-else, and goto instructions. In my second year, I deepened my knowledge of operating systems and built an inode-based file system with support for a redo-only log in distributed systems. Additionally, I tackled the implementation of Parabox, a game that I was particularly interested in, and successfully created most of its core functionality, although it currently lacks a GUI and is presented through a Linux shell or Windows command line.

I am interested in security, including OS security, container security. I will also be happy to try some new topics like storage, database, distributed computing, memory consistency, machine learning system.