YIWEI YANG

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EDUCATION

UC Santa Cruz, Ph.D. Student   08/2022 – 06/2028
- Major: Computer Science, advised by Andrew Quinn. 22 Fall TA of Computer Architecture

ShanghaiTech University, Undergraduate   09/2018 – 06/2022
- Major: Computer Science, finished Compiler, Network, Database, OS, CA, Convex, RL, Parallel Computing. 21& 22 Spring TA of Compiler

WORK EXPERIENCE

Jump Trading, Shanghai, China   07/2020 – 09/2020

(Linux Team)   Production Engineer Intern
- High Frequency Trade Order Book simulation applying Linear.Regression Method.
- Designed a user interface to automate the core affinity of jobs.
- Designed an eBPF exporter of GPFS full OSS lifetime traces for better reporting the bottleneck.

RESEARCH EXPERIENCE

Storage Systems Research Center, UC Santa Cruz   08/2022 – Present

(Graduate Research)   Assistant
- Understand the performance characteristics of CXL.mem systems. Data-driven far memory allocation, prefetching, and replacement policies.
- Make Hardware Software Co-design for on CXL.cache data movement
- Make Virtual Machine migration based on WebAssembly and WASI

PUBLICATIONS

"CXLMemSim: A pure software simulated CXL.mem for performance characterization." Yarch23 **Yiwei Yang** Pooneh Safayenikoo, Jiacheng Ma, Tanvir Ahmad Khan, Andrew Quinn.
"Attack as Defense: Characterizing Adversarial Examples using Robustness." ISSTA21 Zhao, Zhe, Guangke Chen, Jingyi Wang, **Yiwei Yang**, Fu Song, and Jun Sun.

PORTFOLIOS

ChocoPy Compilerhttps://github.com/chocopy-llvm/chocopy-llvm   A compiler to LLVM IR and to riscv assembly of python 3.6 subset as ShanghaiTech Compiler class project

IORing Rusthttps://github.com/LemonHX/ioring-rs   IORing Rust for windows, support monoio

MVVMhttps://github.com/Multi-V-VM/MVVM   Live migration over WebAssembly with WASI support

Bede-linuxhttps://github.com/SlugLab/Bede-linux   Per Process RSS Node Limit Linux kernel for CXL

OpenCopilothttps://github.com/eunomia-bpf/OpenCopilot   Open source implementation of Windows Copilot for system maintainance

SKILLS

- **Programming Languages**: not limited to any specific language, and experienced in Python/C++/Rust, comfortable with Golang/C/Java/Scala/TypeScript (in random order).
- **System**: Specialist in Compiler & Performance Analysis, familiar with `LLVM`, `MLIR`, `Gem5`, `WASM`, `gdb`, `eBPF`, `qemu`, `chisel`, `Linux mm & observability subsystem`
- **Machine Learning**: familiar with general knowledge of machine & reinforce learning, interested of RL for Sys.

MISCELLANEOUS

- Interests: Computer Architecture, Storage System, Formal Methods, etc.
- Awards:
  - Lead GeekPie_HPC *Ranked 2*, SC-SCC21. *Ranked 4*, ISC22. Advise Not-Slow-Slug *Ranked 2*, ISC23.
  - As a member of 0x238e *Best award*, Bitrun, Hang Zhou, 2019.
  - *Second Award*, Shanghai CTF invitation competition, 2019.