

# 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

- Data-driven CXL.mem allocation, prefetching, and replacement policies. 🏆
- Make Hardware Software Co-design for on CXL.cache data movement 📦
- Make cross kernel-userspace eBPF observation for distributed system 🐝

## SELECTED PUBLICATIONS

”eGPU: Extending eBPF Programmability and Observability to GPUs” HCDS25 Yiwei Yang, Tong Yu, Yusheng Zheng, Andrew Quinn.

”wBPF: Efficient Edge-Case Observability for CXL Pooling systems via eBPF” HCDS25 Yusheng Zheng, Tong Yu, Yiwei Yang, Andrew Quinn.

”Extending Applications Safely and Efficiently” OSDI25 Yusheng Zheng, Tong Yu, Yiwei Yang, Yanpeng Hu, Xiaozheng Lai, Dan Williams, Andrew Quinn.

”Transparent and Efficient Live Migration across Heterogeneous Hosts with Wharf” Preprint Yiwei Yang, Aibo Hu, Yusheng Zheng, Brian Zhao, Xinqi Zhang, Andrew Quinn

”CXLMemSim: A pure software simulated CXL.mem for performance characterization.” Yarch23 Yiwei Yang Pooneh Safayanikoo, Jiacheng Ma, Tanvir Ahmad Khan, Andrew Quinn.

## SELECTED PORTFOLIOS

**TVA** <https://github.com/Sluglab/TVA>

Exploiting Control-flow Enforcement Technology for Sound and Precise Static Binary Disassembly

**MVVM** <https://github.com/Multi-V-VM/MVVM>

An LLM agent debugging playground

**ZLUDA** <https://github.com/victoryyang00/ZLUDA>

Live Migration middleware for Heterogeneous GPU

## 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 System for LLM for Sys.

## MISCELLANEOUS

- Interests: HPC, Architecture, Security, JIT, CXL, LLM4Sys4LLM, etc.
- Lead GeekPie\_HPC *Ranked 2*, SC-SCC21. *Ranked 4*, ISC22. Advise Not-Slow-Slug *Ranked 2*, ISC23.
- Advise Kiki Zhang, Zhen Cao to be Ph.D. students.
- Google Summer of Code Mentor for BPFTIME