Yiwei Yang

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Education

UC Santa Cruz, Ph.D. Student 08/2022 – 06/2028

- Major: Computer Science, advised by Andrew Quinn. TA of Computer Architecture

ShanghaiTech University, Undergraduate 09/2018 – 06/2022

- Major: Computer Science, finished Compiler, Network, Database, OS, CA, Convex, RL, Parallel Computing. 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.
- Applied salt and jinja to automate scheduling of jobs and assigning affinity of cpu cores in Linux DevOps.
- Applied gobidng of gobpf to try IOVisor stuff.

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.
- Simulate CXL.mem for data center applications, Emulate CXL.cache for reliable driver and kernel fuzzing.
  Yiwei Yang Pooneh Safayenikoo, Jiacheng Ma, Tanvir Ahmad Khan, Andrew Quinn. **"CXLMemSim: A pure software simulated CXL.mem for performance characterization."** Yarch23 .
- Make Hardware Software Co-design for on CXL.cache data movement
- Make Virtual Machine migration based on WebAssembly and WASI

Darko Marinov's Lab, University of Illinois at Urbana-Champaign 07/2021 – 10/2021

(Research Experience for Undergraduate) Remote Program

- Investigating Order dependent Flaky Tests by Dynamic Taint Analysis and fix the underlying concurrent bugs.

System Lab, ShanghaiTech University 07/2019 – 06/2020

(Undergraduate Research) Intern

- A2D uses the cost of attacking an input for robustness evaluation and identifies those less robust examples as adversarial since less robust examples are easier to attack.
  Zhao, Zhe, Guangke Chen, Jingyi Wang, **Yiwei Yang**, Fu Song, and Jun Sun. **"Attack as Defense: Characterizing Adversarial Examples using Robustness."** ISSTA21 .
- Researching MOVE language in Diem currency source code to protect against Arithmetic Overflow, Timestamp Difference.
- Understanding the real access mechanism of Memory Mode Optane Memory and XPBuffer by reverse-engineering methods.

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`, `Linux perf`, `eBPF`
- **Machine Learning**: familiar with general knowledge of machine & reinforce learning.

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.