

Linshu Yang

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Education

University of Illinois Urbana-Champaign

Master of Computer Science

Since 2025/08

Champaign, IL, USA

ShanghaiTech University

2021/09 – 2025/07

Bachelor of Engineering in Computer Science and Technology

Shanghai, China

- A/A+ Courses: Operating Systems, Computer Networks, Computer Aided Verification, Deep Learning, and 19 others.

Publications

- **pyUPPAAL: A Python Package for Risk Analysis of CPS** doi.org/10.1145/3576841.3589611

Guangyao Chen, **Linshu Yang**, Haochen Yang, Peilin He, Zhihao Jiang

Published in *ACM/IEEE International Conference on Cyber-Physical Systems 2023*

Research Experience

University of Illinois Urbana-Champaign, Supercomputing System AI Lab

Since 2025/08

Research Intern, Advised by **Prof. Minjia Zhang**

Champaign, IL, USA

Max Planck Institute for Informatics, Network and Cloud System Group

2024/09 – 2024/12

Research Assistant, Advised by **Prof. Yiting Xia**

Saarbrücken, Germany

- **OpenOptics: An Open Research Framework for Optical Data Center Networks** github.com/mpi-ncs/openoptics
 - ▶ OpenOptics is a general framework for realizing different optical data center network architectures in a plug-and-play manner – you can get started with just ~10 lines of Python.
 - ▶ Prototyped the traffic-aware workflow of OpenOptics, and built the corresponding Tofino-based backend. Implemented 4 types of traffic-aware scheduling algorithms in the framework for <50 lines of Python.

ShanghaiTech University, Wireless and Mobile System Lab

2023/12 – 2024/08

Research Intern, Advised by **Prof. Zhice Yang**

Shanghai, China

- **Understanding Hybrid Scheduling in Asymmetric Processors**

- ▶ Identified the performance bottlenecks of CFS when scheduling workloads under Kernel-based Virtual Machine (KVM), and proposed patches that improve its scheduling efficiency by 5%.

ShanghaiTech University, Human-Cyber-Physical System Lab

2022/07 – 2023/06

Research Intern, Advised by **Prof. Zhihao Jiang**

Shanghai, China

- **Model-Checking-Based Diagnosis Assistance for Cardiac Ablation** github.com/Jack0Chan/pyuppaal

- ▶ Worked on pyUPPAAL, a Python toolkit for UPPAAL, providing programmatic access to the model-checking tool and enabling automation of verification tasks.
- ▶ Implemented a model-checking-based diagnosis program for cardiac ablation surgeries using the toolkit, and optimized it to process cardiac signals in real-time.

Work Experience

Ubiquant, HPC Infra Group

2025/04 – 2025/08

HPC Infra Engineer Intern

Shanghai, China

- Evaluated and assessed the performance metrics of various distributed storage solutions, including GPFS, DeepSeek's 3FS, GekkoFS and Valkey over RDMA.
- Implemented file write for Ubiloader, Ubiquant's in-house distributed data loading acceleration middleware; achieved up to 2× faster checkpoint writes and 3× faster checkpoint loading for large models.
- Prototyped a high-performance, multi-level distributed key-value store named Simm; delivered up to 8× lower latency and 18% higher throughput than existing solutions compared to ByteDance's Infinistore and Mooncake Store.
- Integrated Simm with vLLM using LMCache as a storage backend for KV cache; achieved up to 2× lower TTFT and 25% higher output throughput over Infinistore and Mooncake Store on large models.

Tencent, Keen Security Lab

2024/04 – 2024/07

System Software Engineer Intern

Shanghai, China

- Developed a fine-grained probing tool using eBPF and kernel modules for the Linux sandbox to capture and analyze malware during runtime; delivered comparative accuracy to competitors.
- Refactored existing sandbox software by decoupling and pipelining data collection and analysis, improving overall throughput by 30%.

Deemos Technology

Full-Stack Software Engineer Intern

2023/01 – 2023/07

Shanghai, China

- Worked on a full-stack web application for ChatAvatar, a text-to-3D model. Developed interactive frontend and integrated backend to support model generation, user interaction, and result visualization.

Activities

Open Source Contributions

- **Regular Contributor, The Rust Programming Language** Since 2024/12
 - Triaged and fixed issues for Clippy, the Rust linter, including bug fixes and lint improvements. Contributed 200+ merged commits and reduced 800+ false positives and negatives in regression tests.

HPC Competitions

- **Team Leader, ISC’24 Student Cluster Competition** 2024/03 – 2024/04
 - Individual 3rd place in Coding Challenge, OpenMP Track. Implemented code optimization and GPU offloading for this Challenge; achieved strong scaling within one CPU node and 200× speedup in one A100.
 - Advised the team on MPI profiling and optimization; reduced communication time by 50%.

Student Organizations

- **Vice President, Geekpie Association** 2022/08 – 2023/07
 - Developed the frontend of Coursebench, a popular course-rating website for ShanghaiTech University.
 - Organized events including Geekpie Games and Geekpie Linux Seminar, with 1k+ students participated.

Services

- Teaching Assistant, CS100: Computer Programming, ShanghaiTech University Spring 2023
- Teaching Assistant, CS132: Software Engineering, ShanghaiTech University Spring 2023

Awards

- Second Class Prize (Rank 6/447), with Huawei Kunpeng Special Award, 2025 PKU HPCGame 2025/01
- Individual 3rd place for Coding Challenge (OpenMP Track), Rank 9/29, ISC’24 Student Cluster Competition 2024/04
- Second Class Prize (Rank 27/300+), ASC’24 Student Supercomputer Challenge 2024/02
- Outstanding Teaching Assistant, ShanghaiTech University 2023/06
- Outstanding Student (Top 3%-7%), ShanghaiTech University 2022/10
- Level 6 (= Second Class Prize in former NOIP), 1st place in the award group, 2019 CCF CSP-S 2019/12

Skills

Working Languages: Chinese (Native), English (Advanced, TOEFL 112: R30/L30/S24/W28)

Programming Languages: Python, Modern C/C++, Rust, Golang, Typescript, Shell, SQL

Tools and Frameworks: OpenMP, MPI, CUDA, Linux Kernel, eBPF, LMCache, Megatron-LM, DeepSpeed, UPPAAL

DevOps Technologies: Docker, Singularity, Kubernetes, Slurm, Gitlab, Postgres, Cloudflare Worker