SHAO-YUAN WANG

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EDUCATION

National Tsing Hua University, Hsinchu, Taiwan *Sept. 2018 - June. 2022*

Bachelor in Computer Science

- **Overall GPA**: 4.24/4.3
- **Award**: Outstanding Academic Achievement Award (2019 Fall, 2020 Spring, 2020 Fall, 2021 Spring)
- **Scholarship**: Outstanding Student Scholarship of College of Electrical Engineering and Computer Science

National Tsing Hua University, Hsinchu, Taiwan *Sept. 2022 - Aug. 2024*

Master in Computer Science

- **Overall GPA**: 4.27/4.3
- **Scholarship**: Outbound Exchange Student Scholarship

WORK EXPERIENCE

TSMC / summer intern *Jul. 2022 - Sep. 2022*
- Optimize defect detecting process on GPU
- Profile and analyze GPU performance by Nsight Systems
- Overlap computation and memory transfer to reduce the overall runtime

Teaching Assistant / Operating System in NTHU three times *Sept. 2021 - Jan. 2024*
- Assist students get familiar with operating system and accomplish a project on simulated operating system

Teaching Assistant / Distributed System in NTHU *Feb. 2022 - Jun. 2022*
- Design lab and assist students in completing their project

Teaching Assistant / Introduction of Programming in NTHU twice *Feb. 2021 - Jan. 2022*
- Assist students get familiar with C/C++ programming and Object-oriented programming

SELECTED PROJECTS

A Resource Planning and Job Scheduling Co-Design Strategy on Heterogeneous Clusters
- Reduce the job completion time over 30% under a cost constraint
- With a target average job completion time, it can get over 1.44x cost reduction

AI Platform on Kubernetes for Automated ML Pipeline Development and Operations
- Container-based resource management
- Service-based web portal for model and data sharing
- Data governance controlled by contract and access control
- All micro services are deployed on Kubernetes cluster
- Private registry with authorization to guarantee isolation

Improve performance of Hermes, a deterministic database system prototype, on hot counter workload
- Design a routing mechanism with data replication and reordering techniques to reduce data transfer between nodes
- 14% improvement compared to original mechanism

Implement part of system in NachOS
- Implement system call, page table, and a multi-level feedback queue scheduler with an aging mechanism in NachOS
- Modify NachOS file system to support larger file size, subdirectory, multi-level header size and recursive operations on Directories.

TECHNICAL SKILLS

Programming:	C, C++, Python, CUDA, Golang, JavaScript, Pthread, MPI, OpenMP, Java, C#, Verilog
Software & Tools:	**Backend:** Express.js, MongoDB, Mongoose
	FrontEnd: Vue.js
	System: Kubernetes
	Others: Docker, Git, AWS

EXTRACURRICULAR

- Coordinator of National Tsing Hua University Computer Science Orientation Camp *Apr.2019 - Sept. 2019*
- Leader of Activities Department of Student Association of Computer Science Department *Sept. 2019 - Jun. 2020*