

Qinghao Hu

S-Lab for Advanced Intelligence
Nanyang Technological University
ABN-02b-11, 61 Nanyang Avenue, Singapore 637335

E-Mail: qinghao.hu@ntu.edu.sg
Tel.: (+65) 8305 3277
Homepage: <https://tonyhao.xyz>

EDUCATION

Nanyang Technological University, Singapore <i>Ph.D. Student in Computer Science</i> Supervisor: Prof. Tianwei Zhang and Prof. Yonggang Wen	2020 ~ Now
National University of Singapore, Singapore <i>Master in Electrical Engineering</i>	2020
Zhejiang University, China <i>Bachelor in Electrical Engineering</i>	2018

RESEARCH INTEREST

- Datacenter Scheduling and Resource Management
- Machine Learning for Systems
- Automated Deep Learning Systems

PUBLICATION

Hydro: Surrogate-Based Hyperparameter Tuning Service in Datacenters

Qinghao Hu, Zhisheng Ye*, Meng Zhang*, Qiaoling Chen*, Peng Sun, Yonggang Wen, Tianwei Zhang
[OSDI '23] USENIX Symposium on Operating Systems Design and Implementation

Lucid: A Non-Intrusive, Scalable and Interpretable Scheduler for Deep Learning Training Jobs

Qinghao Hu*, Meng Zhang*, Peng Sun, Yonggang Wen, Tianwei Zhang
[ASPLOS '23] Architectural Support for Programming Languages and Operating Systems
Distinguished Paper Award

Primo: Practical Learning-Augmented Systems with Interpretable Models

Qinghao Hu, Harsha Nori, Peng Sun, Yonggang Wen, Tianwei Zhang
[ATC '22] USENIX Annual Technical Conference (Accept Rate: 64/393=16.3%)

Characterization and Prediction of Deep Learning Workloads in Large-Scale GPU Datacenters

Qinghao Hu, Peng Sun, Shengen Yan, Yonggang Wen, Tianwei Zhang
[SC '21] International Conference for High Performance Computing, Networking, Storage, and Analysis

Deep Learning Workload Scheduling in GPU Datacenters: Taxonomy, Challenges and Vision

Wei Gao*, **Qinghao Hu***, Zhisheng Ye*, Peng Sun, et al.
[Preprint] Submitted to ACM Computing Surveys

Boosting Distributed Full-graph GNN Training with Asynchronous One-bit Communication

Meng Zhang, **Qinghao Hu**, Peng Sun, Yonggang Wen, Tianwei Zhang
[Preprint] Submitted to a Conference
(* Equal Contribution)

PROFESSIONAL SERVICE

[EuroSys '23] EuroSys Conference	Shadow Committee Member
[OSDI '22] USENIX Symposium on Operating Systems Design and Implementation	AE Committee Member
[ATC '22] USENIX Annual Technical Conference	AE Committee Member
[EuroSys '22] EuroSys Conference	AE Committee Member
[SOSP '21] ACM Symposium on Operating Systems Principles	AE Committee Member

WORK EXPERIENCE

Shanghai AI Laboratory , China	Sep. 2022 - Dec. 2023
Research Intern	
Mentor: Dr. Peng Sun	

INVITED TALK

Hydro: Surrogate-Based Hyperparameter Tuning Service in Datacenters	
<i>ChinaSys, Wuhan China</i>	Jul. 2023
<i>OSDI, Boston United States</i>	Jul. 2023
Lucid: A Non-Intrusive, Scalable and Interpretable Scheduling System	
<i>Huawei, Beijing China</i>	May. 2023
<i>MLSys Seminar Singapore</i>	Apr. 2023
<i>ASPLOS, Vancouver Canada</i>	Mar. 2023
Primo: Practical Learning Systems with Interpretable Models	
<i>ChinaSys, Nanjing China</i>	Dec. 2022
<i>ATC, Carlsbad California United States</i>	Jul. 2022
Scheduling in Large-Scale GPU Datacenters	
<i>National University of Singapore</i>	Jan. 2022
Characterization and Prediction of DL Workloads in Datacenters	
<i>SC, St. Louis Missouri United States</i>	Nov. 2021
Cluster Scheduling for Deep Learning	
<i>S-Lab for Advanced Intelligence, Singapore</i>	Apr. 2021

STUDENT MENTORED

I am fortunate to mentor and co-advise the research of the following students:

- **Ph.D. Students:** Meng Zhang, Yutong Wu
- **Master Students:** Qiaoling Chen, Tan Ru Phing (NUS)
- **Undergraduates:** Peilin Chen, Amrita Ravishanker

HONORS

Distinguished Paper Award of ASPLOS '23	2023
Youth Outstanding Paper Award of WAIC '23	2023
Student Travel Grant of OSDI '23	2023
Best Undergraduate Thesis Award	2018
Outstanding Graduates of Zhejiang University	2018