Jinhao Zhao

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Education Background

Washington University in St. Louis St. Louis, USA
McKelvey School of Engineering, Computer Science (Expected Graduation: May 2027)
Ph.D. Student of Engineering in Computer Science and Technology **Aug. 2021-now**

- Research on theoretical computer science, including parallel computing, distributed systems, algorithms.

Tsinghua University Beijing, China
Yaoclass, Institute for Interdisciplinary Information Sciences
Bachelor of Engineering in Computer Science and Technology **Sep.2014-Jun.2018**

Research and Work Experiences

TikTok Inc. (Internship) Seattle, USA
E-commerce Recommendation Algorithm Intern **Jun-Sep 2026**

- Trained and evaluated a TARNet-based uplift model for e-commerce cold-start recommendations using video, product, and creator features and data from a cold-start holdout experiment; compared performance against a response-model baseline using Qini and other offline metrics.
- Built a monitoring dashboard for the e-commerce cold-start recommendation pipeline by instrumenting multiple modules and integrating internal query results, covering error rates, per-path survival counts, and cold-start share.

Doctoral Research, Washington University in St. Louis **Aug. 2021-now**
Advisor: Prof. Kunal Agrawal

- Conducted research on load balancing in database systems, designed the algorithm for theoretical models, and proved its correctness. Results published in PPoPP and SPAA. The SPAA'24 paper received the *Best Paper Award*.
- Conducted research on combining different classifiers by running them in a row, where the main idea is arranging the order to get lower cost. The running time for the sequence was reduced by ~29% without introducing new models. Results published in RTSS and ECRTS.
- Conducted research on parallel algorithms, including paging, scheduling, and cache adaptivity, using competitive analysis. The ECRTS'26 paper received the Outstanding Paper Award.

Zhuiyi.ai Shenzhen, China
Research on Automatic Speech Recognition **Nov.2019-Aug. 2021**

- Trained and optimized the ASR model (based on Kaldi, in Python and C++) according to data from industrial environment. Applying the technology of appending new phrases to the lattice artificially, it reached 98%+ accuracy in technical dialogs.
- Applied high performance computing methods, reducing the lag from 500+ms to <200ms.

Ruyi.ai (Internship) Beijing, China
Research on Knowledge Graph and Data Mining
Algorithm Team, Supervisor: Li Ding, Principal Scientist **Feb.2019-Aug.2019**

- Built the risk detection model for companies by knowledge graph, and the recommendation system for users with financial products. The outputs were designed to be understood by human experts, and was applied practically in China CITIC Bank and Bank of China.

Yaoclass, Institute for Interdisciplinary Information Sciences, Tsinghua University,
Machine Learning with Small Sample Size
Advisor: Prof. Chenye Wu **Mar.2018-Jun.2018**

- Trained simple model (SVM) and large model by Python on the datasets of galloping and stoppage by weather conditions and parameters of the power grid, in order to predict future outages. This project is for dissertation of the Bachelor's degree.

GroupLens, Department of Computer Science and Technology, University of Minnesota
Advisor: Prof. Haiyi Zhu
Reputation System Bias **May.2017-Sept.2017**

- Developed part of the research website (front-end and back-end), optimized the interface, and added some new functions, including comments scraping, information collecting, and IAT.

Analysis of User Data on Airbnb and Couchsurfing **Mar.2017-Apr.2017**

- Scraped public Airbnb and Couchsurfing listings; compared platforms using hypothesis tests.

Megvii Technology Limited (Internship) Beijing, China
Research on Algorithms for Computer Vision Realization Based on Machine Learning
Video Team, Supervisor: Chi Zhang, Principal Scientist **Aug.2016-Dec.2016**

- Conducted for some deep learning methods in computer vision, including tracking, re-identification, body parsing and human attributes. The result in re-identification was once the SOTA and summarized as an intent for the company.

Department of Computer Science and Technology, Tsinghua University
Scheduling of Droplets on the Microfluid Chip
Advisor: Prof. Hailong Yao **Mar.2016-Dec.2017**

- Designed the algorithm for scheduling the microfluid chips, showing them with pseudo-codes, graphics and a program.

Honors & Awards

- Outstanding Paper Award of ECRTS, 2026
- Best Paper Award of ACM Symposium on Parallelism in Algorithms and Architectures (SPAA), 2024
- 2nd Place of North American Collegiate Bridge, 2022
- Tsinghua-Baidu Award for social work (with scholarship), 2015
- Gold Medal in CMO (Chinese Mathematical Olympiad), 2013
- Silver Medal in NOI (National Olympiad in Informatics), 2013

Publications

Kunal Agrawal, Tung Duc Thai, **Jinhao Zhao**: *Semi-Clairvoyant Scheduling for Jobs with Multiple Criticalities*. Euromicro Conference on Real-Time Systems (ECRTS) 2026: 21:1-21:23 (Outstanding Paper Award)

Kunal Agrawal, Sanjoy K. Baruah, Zhishan Guo, Jing Li, Federico Reghenzani, Kecheng Yang, **Jinhao Zhao**: *Faster Classification of Time-Series Input Streams.* Euromicro Conference on Real-Time Systems (ECRTS) 2025: 13:1-13:22

Kunal Agrawal, Sanjoy K. Baruah, Jeremy T. Fineman, Alberto Marchetti-Spaccamela, **Jinhao Zhao**: *Analysis of EDF for Real-Time Multiprocessor Systems with Resource Sharing.* Euromicro Conference on Real-Time Systems (ECRTS) 2025: 15:1-15:26

Kunal Agrawal, Sanjoy K. Baruah, Alan Burns, **Jinhao Zhao**: *IDK Cascades for Time-Series Input Streams.* IEEE Real-Time Systems Symposium (RTSS) 2024: 83-95

Kunal Agrawal, William Kuszmaul, Zhe Wang, **Jinhao Zhao**, *Distributed Load Balancing in the Face of Reappearance Dependencies*. **Best paper** of ACM Symposium on Parallelism in Algorithms and Architectures (SPAA) 2024.

Zhe Wang, **Jinhao Zhao**, Kunal Agrawal, etc., *Provably Good Randomized Strategies for Data Placement in Distributed Key-Value Stores*. Principles and Practice of Parallel Programming (PPoPP) 2023

Ziang Xiao, Shiliang Zuo, **Jinhao Zhao**, Wai-Tat Fu, etc., Brian S. Woodard, *Understanding Interrelated Growth Mind-set and Academic Participation &Performance*. American Society for Engineering Education, 2019

Maximilian A Klein, **Jinhao Zhao**, Jiajun Ni, Isaac Johnson, Benjamin Mako Hill, Haiyi Zhu, *Quality Standards, Service Orientation, and Power in Airbnb and Couchsurfing*. Proc ACM Hum-Comput. Interact. 1, 1, Article 58 (January 2017), 21 Pages

Talks

Distributed Load Balancing in the Face of Reappearance Dependencies.
Conference Talk. Nantes, France. SPAA 2024.
Workshop Talk. Kolding, Denmark. MAPSP 2024.
Provably Good Randomized Strategies for Data Placement in Distributed Key-Value Stores.
Conference Talk. Montreal, Canada. PPoPP 2023.

Community Involvement

Key member in bridge club, Washington University in St. Louis **Aug. 2021-now**

- Mentored the team as senior player, joined the weekly activities.
- Participated in tournaments and contests from 2022 to 2025.

Open-source code developer, github.com/moeheart/jx3bla **Sept. 2021-now**

- A battle log analyzer for a WoW-like MMORPG, providing detailed data and comparison for users.
- Maintains 1k+ active users and received ~1M logs.