

Haoran Dang (党浩然)

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EDUCATION

- **University of Chinese Academy of Sciences** 2022-09 ~ Present
Institute of Computing Technology, Chinese Academy of Sciences Beijing, China
M.Eng. Student in Computer Technology Supervisor: Prof. Dongrui Fan GPA: 3.81/4 Rank: 2/41 (4.9%)
- **ShanghaiTech University** 2018-09 ~ 2022-06
B.Eng. in Computer Science and Technology GPA: 3.50/4 Rank: 55/194 (28.4%) Shanghai, China

RESEARCH & PROJECTS

– Publications

1. H Dang, M Wu, M Yan, X Ye, and D Fan, “**GDL-GNN: Applying GPU Dataloading of Large Datasets for Graph Neural Network Inference**,” *Euro-Par 2024*.
2. H Dang, C Ye, Y Hu, and C Wang, “**NobLSM: An LSM-tree with Non-blocking Writes for SSDs**,” *DAC 2022*.
3. D Wang, M Yan, Y Teng, D Han, H Dang, X Ye, and D Fan, “**A Transfer Learning Framework for High-accurate Cross-workload Design Space Exploration of CPU**,” *ICCAD 2023*.

– Research

- **Lab of Graph Intelligent Machine (GIMLab)** HTCRC, ICT, CAS 2021-12 ~ Present
Director: Assoc. Prof. Mingyu Yan Beijing, China
 - Currently conducting research to accelerate the mini-batch inference process for GNNs on GPU platforms.
 - Conducted research to accelerate full-graph GNN accurate inference on multi-GPU platforms. Developed and implemented GDL-GNN, an optimized GPU data-loading method based on graph partitioning to minimize data accesses outside GPU memory, resulting in a 59.9% performance improvement over the baseline. (See Publication 1)
 - Developed an undergraduate FYP on optimizing GNN training, halving training times by implementing a multithreaded dataloader. Awarded the SIST Outstanding Thesis.
- **Toast Lab** SIST, ShanghaiTech 2021-07 ~ 2022-02
PI: Assist. Prof. Chundong Wang Shanghai, China
 - Designed and implemented NobLSM's database component, utilizing a modified ext4 to minimize costly `sync` operations by delaying deletions of old SSTables until the corresponding compacted SSTables have been automatically flushed onto the disk. Demonstrated enhanced performance via benchmarking against SOTA LSM-trees. (See Publication 2)
- **Attitude Research Lab (ARLab)** SEM, ShanghaiTech 2020-09 ~ 2021-09
PI: Assoc. Prof. Lifeng Yang Shanghai, China
 - Participated in preparing the book *Ethics and Morality in Information Science and Technology*. Provided suggestions on selecting publishing houses and participated in writing example chapters.

– Projects

- **The “One Student One Chip” (一生一芯) Project** 2024-01 ~ Present
 - Student ID: `ysyx_24070014` Learning record: `danghr.com/ysyx/record` Code: `danghr.com/ysyx/code`
 - Software: Implemented NEMU, a RISC-V emulator for teaching purposes, supporting RV32IM instructions up to now.
 - Hardware: Currently developing a single-cycle RISC-V CPU using Verilog.
- **Pintos** (As the course project of Operating System I in ShanghaiTech) 2020-09 ~ 2021-01
 - Implemented a multi-threading kernel with scheduling & thread management, user program & system calls, virtual memory, and file system with buffer cache.

– TEACHING

- **Operating Systems I (TA)** ShanghaiTech Fall, AY 2021-2022

SKILLS

- **Programming Languages & Frameworks:** Proficient in C/C++ and Python, with knowledge in PyTorch, DGL, Verilog, Shell scripting, and \LaTeX .
- **Languages:** Mandarin Chinese (native), English (fluent)
 - **TOEFL iBT** Score: 107 (Reading: 29 Listening: 27 Speaking: 23 Writing: 28) 2024-04
 - **GRE General Test** Score: 328 (Verbal: 158 Quantitative: 170 Analytical Writing: 4) 2022-08

CERTIFICATES & AWARDS

- **Outstanding Student (AY 2023-2024)** UCAS 2024-05
- **2022 SIST Outstanding Thesis** (for undergraduate final year project) ShanghaiTech 2022-06
- **Excellent Individual of Industrial Practice in Class of 2018** ShanghaiTech 2021-06
- **Excellent Individual of Social Practice in 2019** ShanghaiTech 2019-11

VOLUNTARY SERVICE

- **20th Public Science Day of ICT, CAS** On-site camera operator for livestream. ICT, CAS 2024-05
- **“Sunflower Activity” - Haidian Hospital Volunteers** Assistance in the Service Center ICT, CAS 2023-12
- **2020 Campus Opening Day** Participated in device check and exam download. ShanghaiTech 2020-07
- **2019 Admission Consultation** Participated in admission consultation in Beijing. ShanghaiTech 2019-06