Dahua Feng

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GitHub

Education

B.S. in Information and Computing Sciences, Peking University Beijing, China
School of Electronics Engineering and Computer Science *Sep. 2020 - Present (Jun. 2024 Expected)*

- **GPA:** 3.653/4.000 **Rank:** 25/96

Research Experience

Research Intern mentored by Prof. Zhi Yang Mar. 2022 - Feb. 2023
School of Computer Science, Peking University

- This project focused on the acceleration for neural network computation. Primarily, we tried to use the genetic algorithm based on BFS and DP to schedule the ops. Then we mainly focused on the resources allocation.
- I analyzed part of the source code of Roller and the time evaluation source code of TVM.
- I gathered and read some papers on neural networks and summarized the structures of them, so as to provide the benchmarks for our project.
- I added the functionality of resources allocation for the IOS. I analyzed the results and compared the performances between them.

Research Intern mentored by Prof. Yufei Ding Jul. 2023 - Present
Department of Computer Science, University of California, Santa Barbara

- This project aimed to improve the performance of the DLRM training. We tried to implement a better approach for sharding embedding tables across many GPUs.
- I analyzed the problem of the embedding table placement on multi-GPU theoretically and proposed some possible algorithms for the subproblem.
- I explored the existing approach to solving sharding problems such as using RL and proposed some potential ways to improve it.
- I am now actively working on the project about the combination of NVSHMEM communication and table batched embedding.

Work Experience

Teaching Assistant of Computer Architectures Fall 2023
School of Electronic Engineering and Computer Science, Peking University

- As a TA of Computer Architectures course instructed by Prof. Jie Zhang, I participated in the writing and revision of the course projects, made further explanation for the projects (Q&A) in class and organized the quizzes.

Skills

Programming Languages & Softwares: C, C++, Python, LaTeX, Linux
Python Packages: torch, sklearn
Languages: Mandarin (native), English (TOEFL iBT: 102/120), Korean (beginner)