Yihao ZHAO

Ph.D. Student, Peking University

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Education

Peking University (PKU) **Beijing, China**

Ph.D., School of Computer Science *Sept. 2021 – Present*

Advisor: Xuanzhe Liu

Co-advisor: Xin Jin

Peking University (PKU) **Beijing, China**

*B.E. in Computer Science, **Turing Class*** *Sept. 2017- Jul. 2021*

Overall GPA: 3.78/4.0 (top 7%)

Research Experience

Research Assistant, SAAS research lab, PKU *Sept. 2020 - Present*

Advisor: Prof. Xin Jin, Prof. Xuanzhe Liu

- **Execution- and Resource-efficient Cluster Scheduling for Deep Learning**
  - Identified the opportunity of interleaving DL training jobs on the usage of multiple resource types.
  - Designed a scheduling algorithm based on Blossom algorithm that considers the multi-resource usage of each job to maximize the interleaving efficiency.
  - Proposed a cluster scheduler for DL workloads, Muri, that exploits multi-resource interleaving and built a prototype, which improves the average JCT by up to 6.2x, makespan by up to 1.7x, and tail JCT by up to 5.4x.

Research Assistant, Hyperplane Group, CFCS, PKU *Jul. 2019 – Aug. 2020*

Advisor: Prof. Hao Dong

- **Unpaired Image-to-image Translation Problems**
  - Proposed a novel adversarial consistency loss for image-to-image translation which overcomes the drawbacks of the widely used cycle-consistent loss; that is to say, our method can perform geometric changes, remove large objects, and ignore irrelevant texture.
  - Achieved state-of-the-art results on several challenging image-to-image translation tasks, e.g., glass removal.

Publications

Conference Papers

[1] **Yihao Zhao**, Yuanqiang Liu, Yanghua Peng, Yibo Zhu, Xuanzhe Liu, Xin Jin, "Multi-Resource Interleaving for Deep Learning Training", in ACM SIGCOMM, 2022

[2] **Yihao Zhao**, Ruihai Wu, Hao Dong, "Unpaired Image-to-Image Translation using Adversarial Consistency Loss", in ECCV, 2020

Teaching Experience

Teaching Assistant

Distributed Maching Learning	Fall 2022
Introduction to Computing	Fall 2021
Deep Generative Models	Spring 2020
Introduction to Computer Systems	Fall 2019

Awards and Honors

Jiukun Prize, PKU	Oct. 2022
Third Prize, Peking University Award, PKU	Oct. 2020
Merit Student Award, PKU	Oct. 2020
First Prize, Turing Benjing Award, PKU	Oct. 2019
Benz Scholarship (Only 2 for Grade 2017, EECS), PKU	Oct. 2018
Merit Student Award, PKU	Oct. 2018

Skills

- Programming Languages: Python, C++
- Deep Learning Toolkits: PyTorch, TensorFlow