Yusen Wu

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Education

Sichuan University (SCU), Chengdu, China — Sep. 2021 – Jun. 2025

Undergraduate in Computer Science and Technology (Top-notch program)

- **GPA:** 3.93/4 **Average Score:** 92.60/100 **rank:**Top 1.5% **CET6:** 571

Research Experience

Multi-tenancy GPU Offloading — Apr. 2024 – Now

Team Member Supervisor: Yue Cheng (University of Virginia)

- Explored the potential for host memory contention when employing an offload strategy for training large language models with constrained GPU resources.
- Conducted preliminary experiments to confirm the existence of host memory limitations.

Layer-wised Sparsification Based on Hypernetwork for Distributed NN Training — Oct. 2023 – Mar. 2024

Team Lead Supervisor: Qing Ye (Sichuan University)

- Proposed a layer-wised sparsification method which utilizes hypernetworks to narrow down the communication volume.
- Constructed an efficient objective function for the hypernetwork to guide the selection of layers for transmission, ensuring that layers which contribute more to the learning process are prioritized to transmit.
- Conducted extensive experiments on different models and datasets. The results validate the efficacy of our method and demonstrate its compatibility with other current compression techniques (e.g., TernGrad, Top-K).

outcome: (1st author) A research paper in submission.

Masked Unmasked Face Recognition — Jul. 2023

Team Lead Supervisor: Terence Sim (National University of Singapore)

This is a summer workshop project in NUS SoC.

- Developed face mask recognition algorithms, using dlib for facial detection, landmark-based mask simulation, and HOG for feature extraction. Employed SVM for training and testing, achieving accurate mask identification in small datasets.
- Applied ECCV principles for face alignment, utilized features like HoG, Sobel, and PCA, and employed k-nearest neighbors for effective employee classification.
- Utilized HoG, Sobel, and Histogram Distance as initial features, employed bagging for enhanced accuracy, and implemented High-dim LBP.

Honors and Awards

National Scholarship in Sichuan University	2021 – 2022
Merit Student in Sichuan University	2021 – 2022, 2022 – 2023
First Prize, Lanqiao Cup - Provincial (Sichuan) in C/C++ Programming	2022, 2023
Third Prize, Lanqiao Cup - National Final in C/C++ Programming	2022, 2023
Third Prize, Group Programming Ladder Tournament - National Final	2023
First Prize, China Undergraduate Mathematical Contest in Modelling (Sichuan)	2023

Skills

- Programming Languages: Python, C/C++, MATLAB, LaTeX, CUDA
- Deep Learning Framework: Pytorch, Megatron, DeepSpeed