

YEFAN ZHOU

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EDUCATION

Dartmouth College

Ph.D. candidate in Computer Science

Advisor: Prof. Yaoqing Yang

Research Area: Efficiency and transparency of ML, LLM pruning/fine-tuning/mixture-of-expert, Model diagnostic

Hanover, NH

Sep. 2023 – present

University of California, Berkeley

M.Eng in Electrical Engineering and Computer Science; Major GPA: 4.0/4.0

Advisor: Prof. Michael Mahoney

Research Area: Pruning for model efficiency

Berkeley, CA

Aug. 2021 – Dec. 2022

University of California, Berkeley

Exchange Student; GPA: 4.0/4.0

Berkeley, CA

Jan. 2019 – May. 2019

Southeast University

B.Eng in Information Engineering; GPA: 3.7/4

China

Aug. 2016 – Jun. 2020

PUBLICATION

Selected first-author paper:

1. {H. Lu*, **Y. Zhou***}, S. Liu, Z. Wang, M. W Mahoney, Y. Yang “AlphaPruning: Using Heavy-Tailed Self Regularization Theory for Improved Layer-wise Pruning of Large Language Models” (**NeurIPS 2024**) [↗](#)
◆ LLM pruning ◆ Efficient inference
2. {H. Lu*, X. Liu*, **Y. Zhou***, Q. Li*}, H. Yang, Y. Yan, K. Keutzer, M. W. Mahoney, Y. Yang “Sharpness-diversity tradeoff: improving flat ensembles with SharpBalance” (**NeurIPS 2024**) [↗](#)
◆ Ensembling ◆ Out-of-distribution
3. {**Y. Zhou***, J. Chen*}, Q. Cao, K. Schürholt, Y. Yang “MD tree: a model-diagnostic tree grown on loss landscape” (**ICML 2024**) [↗](#)
◆ Model selection ◆ Scaling law ◆ Hyperparameter tuning
4. {**Y. Zhou***, T. Pang*}, K. Liu, C. H Martin, M. W Mahoney, Y. Yang “Temperature Balancing, Layer-wise Weight Analysis, and Neural Network Training” (**NeurIPS 2023 Spotlight**) [↗](#)
◆ NN optimizer ◆ Efficient training ◆ Layer quality analysis
5. **Y. Zhou**, Y. Yang, A. Chang, M. W Mahoney “A Three-regime model of Network Pruning” (**ICML 2023**) [↗](#)
◆ NN pruning ◆ Model selection ◆ Losslandscape analysis
6. **Y. Zhou**, Y. Shen, Y. Yan, C. Feng, Y. Yang “A Dataset-Dispersion Perspective on Reconstruction Versus Recognition in Single-View 3D Reconstruction Networks” *2021 International Conference on 3D Vision (3DV 2021)*

Collaborating or advising paper:

7. {Z. Liu*, Y. Hu*}, T. Pang, **Y. Zhou**, P. Ren, Y. Yang “Model Balancing Helps Low-data Training and Fine-tuning” (**EMNLP 2024 main Oral**) [↗](#)
◆ LLM fine-tuning ◆ Low-resource training
8. P. Qing, C. Gao, **Y. Zhou**, X. Diao, Y. Yang, S. Vosoughi “AlphaExpert: Assigning LoRA Experts Based on Layer Training Quality” (**EMNLP 2024 main**) [↗](#)
◆ LLM fine-tuning ◆ Mixture-of-expert

9. X. Zhu, **Y. Zhou**, Y. Fan, J. Chen, M. Tomizuka “Learn to Grasp with Less Supervision: A Data-Efficient Maximum Likelihood Grasp Sampling Loss” *2022 International Conference on Robotics and Automation (ICRA 2022)*
10. K. Schürholt, L. Meynert, **Y. Zhou**, Y. Yang, D. Borth “A Model Zoo on Phase Transitions in Neural Networks” (Preprint)

PROFESSIONAL EXPERIENCE

Research Engineer, International Computer Science Institute
supervised by Prof. Michael Mahoney

Berkeley, CA
Jan. 2023 – Jun. 2023

- Researched efficient optimization method for deep neural network.
- Researched ensembling methods for improving the OOD robustness of CV models.
- Developed backdoor detection methods to enhance AI model safety.

Graduate Research Assistant, Sky Computing Lab (RISELab), UC Berkeley
advised by Prof. Michael Mahoney

Berkeley, CA
Aug. 2021 – Dec. 2022

- Researched neural network pruning for CNNs and Transformers.

SERVICES AND AWARD

Reviewers: ICLR 2025-2024, NeurIPS 2023, AAAI 2024, ICML 2024, CVPR 2024, CPAL 2024, IROS 2022, TMLR

Talk

- * Invited talk at AI-TIME, “Phase transition, loss landscape and model diagnostics”, Jan., 2024.
- * Invited talk at UC Berkeley/ICSI TrojAI onsite, “Layer-wise Weight Analysis, and Neural Network Training” Oct. 2023
- * Invited talk at UC Berkeley/ICSI TrojAI onsite, “A Three-regime model of Network Pruning” Mar. 2023

Award: ICML 2024 Scholar Award, NeurIPS 2023 Scholar Award

Teaching (Head TAs): CS70: Foundations of Applied Computer Science (Dartmouth College Spring 2024)

SKILLS

Programming Language: Python, Java, C/C++, CUDA, SQL, MATLAB

Developer Tools: PyTorch, Ubuntu, MuJoCo, ROS, PyBullet, Slurm, PyRender, Open3D