Han Zheng

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Education

Zhejiang University Sep. 2021 - Present
Computer Science and Technology College, Chu Kochen Honors College
Major: *Computer Science and Technology* Current GPA: 3.5/4.0

Coursework

Courses: Object-Oriented Programming, Advanced Data Structure & Algorithm Analysis, Database System, Discrete Math, Linear Algebra, Mathematical Analysis, General Physics, Probability & Statistics
Awards: Academic Excellence Award, Zhejiang University (2021)

Experiences

Research Intern | *Michigan State University, Dept. of Computer Science and Engineering* Jul. 2024 – Present
Advisor: Prof. Sijia Liu

- Studied the application of Curriculum Learning in Machine Unlearning, designed and discovered the effect of Curriculum Learning method on the efficiency of Machine Unlearning methods.
- Using Challenging Forgets, Entanglement Score and other metrics to rank the difficulty of machine forgetting, and thus designing a training scheduler to be applied to the conventional machine forgetting method.
- The project is still ongoing

Research Intern | *Zhejiang University, Dept. of Computer Science and technology* Mar. 2024 – Jun. 2024
Advisor: Prof. Mingli Song

- Developed an advanced dual denoising mechanism for diffusion models, addressing the challenges of quantization noise in low-latency, resource-constrained environments. Decomposes the noise estimation into mean and variance deviations, optimizing the sampling equation and significantly improving the trajectory of model convergence
- Demonstrated a 1.42 lower FID and achieved a 3.99x compression rate with 11.67x bit-operation acceleration, enhancing model scalability and performance.
- Paper: Zeng, Q., Song, J., **Zheng, H**., Jiang, H., Song, M. D^2-DPM: Dual Denoising for Quantized Diffusion Probabilistic Models. Submitted to AAAI 2025.

Research Intern | *Zhejiang University, Dept. of Computer Science and technology* Jan. 2024 – Present
Advisor: Prof. Mingli Song

- Extending model merging to heterogeneous models lies in the inconsistency of conditions such as model depth, width, and layer types.
- Designed a heterogeneous model fusion algorithm to cope with both residual and non-residual structures and integrates single layers from shallow architectures with multiple layers of deep networks, enabling the correct fusion of features from both networks.
- Developed an alignment strategy based on layer-wise feature similarity analysis for efficient layer alignment between heterogeneous models and compared the efficiency of different layer alignment strategies.
- Paper expected to be submitted to CVPR in November 2024 (First author)

Summer Research | *Oxford University, Dept. of Computer Science* Jul. 2023 – Aug. 2023

- Completed 6 ECTS credits of Artificial Intelligence and Machine Learning with a final grade of 4.0/4.0
- Used machine learning techniques including clustering, classification, regression and the sk-learn library to process and analyze specific data
- Designed network structures to process specific data sets and achieved 96.8% accuracy

Skills

Programming: C/C++, CUDA C/C++, Python(Pytorch), Java, HTML/CSS, SQL, LaTeX
Tools: Git/GitHub, Linux Shell, VS Code, IntelliJ CLion/PyCharm/IDEA
Language: English(TOEFL 98, CET4 616, CET6 581)