

EDUCATION

2019-2023	Georgia Institute of Technology Ph.D. in Machine Learning
2018-2020	Georgia Institute of Technology M.S. in Computational Science & Engineering
2014-2018	University of Southern California B.S. in Electrical Engineering

PROFESSIONAL EXPERIENCE

2024.1-Present	Senior Researcher, Microsoft.
2023.2-2023.5	Research Intern, Microsoft. Parameter-Efficient Fine-tuning for Large Language Models (LMs). Manager: Weizhu Chen.
2022.5-2022.8	Research Intern, Google Research. Distillation Strategy for Vision-Language Models. Manager: Boqing Gong.
2021.9-2021.12	Applied Scientist Intern, Amazon. Pruning Strategy for LM Pre-training. Manager: Bing Yin.
2021.5-2021.8	Research Intern, Microsoft. Optimization and Regularization Strategy for LM Fine-tuning. Manager: Weizhu Chen.
2018.5-2018.8	Deep Learning Software Intern, NVIDIA.

RESEARCH EXPERIENCE

- **Efficient Training and Adaptation.** Developed parameter-efficient fine-tuning and text-conditioned weight generation methods for efficient task adaptation and cross-task generalization.
- **Model Compression.** Developed structured pruning and knowledge distillation strategies for lightweight model storage and efficient inference.
- **Deep Transfer Learning.** Developed adaptive optimization, adversarial regularization, and attention methods for task-specific fine-tuning and multi-task learning.
- **Other Topics.** Developed ensemble learning, curriculum learning, and self-training methods for generalizable representations.

PUBLICATIONS (* EQUAL CONTRIBUTION)

1. **LoftQ: LoRA-Fine-Tuning-Aware Quantization for Large Language Models**
Yixiao Li*, Yifan Yu*, **Chen Liang**, Pengcheng He, Nikos Karampatziakis, Weizhu Chen, Tuo Zhao.
ICLR, 2024 (Oral)
2. **Module-wise Adaptive Distillation for Multimodality Foundation Models**
Chen Liang, Jiahui Yu, Ming-Hsuan Yang, Matthew Brown, Yin Cui, Tuo Zhao, Boqing Gong, Tianyi Zhou.
NeurIPS, 2023

3. **Less is More: Task-aware Layer-wise Distillation for Language Model Compression**
Chen Liang, Simiao Zuo, Qingru Zhang, Pengcheng He, Weizhu Chen and Tuo Zhao.
ICML, 2023
4. **LoSparse: Structured Compression of Large Language Models based on Low-Rank and Sparse Approximation**
Yixiao Li*, Yifan Yu*, Qingru Zhang, Chen Liang, Pengcheng He, Weizhu Chen, Tuo Zhao.
ICML, 2023
5. **HomoDistil: Homotopic Pruning for Task-Agnostic Distillation of Pre-trained Transformers**
Chen Liang, Haoming Jiang, Zheng Li, Xianfeng Tang, Bin Ying and Tuo Zhao.
ICLR, 2023
6. **PLATON: Pruning Large Transformer Models with Upper Confidence Bound of Weight Importance**
Qingru Zhang, Simiao Zuo, Chen Liang, Alexander Bukharin, Pengcheng He, Weizhu Chen and Tuo Zhao.
ICML, 2022
7. **MoEBERT: from BERT to Mixture-of-Experts via Importance-Guided Adaptation**
Simiao Zuo, Qingru Zhang, Chen Liang, Pengcheng He, Tuo Zhao and Weizhu Chen.
NAACL, 2022
8. **Self-Training with Differentiable Teacher**
Simiao Zuo*, Yue Yu*, Chen Liang, Haoming Jiang, Siawpeng Er, Chao Zhang, Tuo Zhao and Hongyuan Zha.
NAACL (Findings), 2022
9. **CAMERO: Consistency-Regularized Ensemble of Perturbed Language Models with Weight Sharing**
Chen Liang, Pengcheng He, Yelong Shen, Weizhu Chen and Tuo Zhao.
ACL, 2022
10. **No Parameters Left Behind: Sensitivity Guided Adaptive Learning Rate for Training Large Neural Networks**
Chen Liang, Haoming Jiang, Simiao Zuo, Pengcheng He, Xiaodong Liu, Jianfeng Gao, Weizhu Chen and Tuo Zhao.
ICLR, 2022
11. **Adversarial Training as Stackelberg Game: An Unrolled Optimization Approach**
Simiao Zuo, Chen Liang, Haoming Jiang, Xiaodong Liu, Pengcheng He, Jianfeng Gao, Weizhu Chen and Tuo Zhao.
EMNLP, 2021
12. **Super Tickets in Pre-Trained Language Models: From Model Compression to Improving Generalization**
Chen Liang, Simiao Zuo, Minshuo Chen, Haoming Jiang, Xiaodong Liu, Pengcheng He, Weizhu Chen and Tuo Zhao.
ACL, 2021
13. **Token-wise Curriculum Learning for Neural Machine Translation**
Chen Liang, Haoming Jiang, Xiaodong Liu, Pengcheng He, Weizhu Chen, Jianfeng Gao and Tuo Zhao.
EMNLP (Findings), 2021
14. **ARCH: Efficient Adversarial Regularized Training with Caching**
Simiao Zuo, Chen Liang, Haoming Jiang, Pengcheng He, Xiaodong Liu, Jianfeng Gao, Weizhu Chen and Tuo Zhao.
EMNLP (Findings), 2021
15. **BOND: BERT-Assisted Open-Domain Named Entity Recognition with Distant Supervision**
Chen Liang*, Yue Yu*, Haoming Jiang*, Siawpeng Er, Ruijia Wang, Tuo Zhao and Chao Zhang.

KDD, 2020

16. **Multi-Domain Neural Machine Translation with Word-level Layer-wise Domain Mixing**

Haoming Jiang, **Chen Liang**, Chong Wang and Tuo Zhao.

ACL, 2020

17. **A Fully Convolutional Tri-branch Network (FCTN) for Domain Adaptation**

Junting Zhang, **Chen Liang** and C-C. Jay Kuo.

IEEE Internal Conference on Acoustics, Speech and Signal Processing (ICASSP), 2018

AWARDS

2022

Rising Stars in EECS

2022-2023

ICML/NAACL/NeurIPS Travel Awards

2017-2018

USC Provost's Undergraduate Research Fellowship

TEACHING

2020.9-2021.5

Teaching Assistant, Georgia Tech ISyE 3030 Basic Statistics Methods

2020.5-2020.8

Teaching Assistant, Georgia Tech ISyE 3770 Statistics & Applications

2019.8-2019.12

Teaching Assistant, Georgia Tech CSE 6140 Algorithms

2017.8-2017.12

Course Producer, USC EE364 Probability and Statistics

SERVICES

- Reviewer: NeurIPS (2021-Present), ICML (2021-Present), ICLR (2021-Present), EMNLP (2021-2022), ACL (2021-2022), NAACL (2021-2022), EACL (2021), COLING (2021).

SKILLS

- Python, C++/C, SQL, R, Matlab, Java
- PyTorch, JAX, Tensorflow, Spark, Hive, OpenCV, OpenGL

REFERENCES

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