Daize Dong

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Summary

I am a graduate in Computer Science & Mathematics and Applied Mathematics from University of Electronic Science and Technology of China. My research interests primarily revolve around the interpretability and representation capabilities of deep neural networks (e.g., properties of large language models), as well as the application of artificial intelligence in other research areas (e.g., AI + biology, psychology).

Education

University of Electronic Science and Technology of China — September 2019 – July 2023
Bachelor of Computer Science & Mathematics and Applied Mathematics — *GPA: 3.91/4.00*

Research Experience

OpenGVLab, Shanghai Artificial Intelligence Laboratory — July 2023 – Present
Research Assistant
Instructor: Prof. Yu Cheng
Mixture of Experts, Large Language Models, Natural Language Processing
- Explored the structures of Large Language Models (LLMs) and efficient properties of Mixture of Experts (MoE).
- Conducted research on effective strategies to for incorporating MoE structures into pre-trained dense Large Language Models.

Center for Artificial Intelligence Research and Innovation, Westlake University — April 2023 – Present
Research Assistant
Instructor: Prof. Stan Z. Li
Molecular Generation, AI for Drug Discovery and Development
- Studied fundamental concepts pertaining to the representation of molecules and proteins.
- Explored the strategies for 2D and 3D molecular representation learning and generation.
- Conducted research on a unified molecular generation framework using language models.

Data Intelligence Group, University of Electronic Science and Technology of China — July 2022 – March 2023
Research Intern
Instructor: Prof. Wen Li
Domain Adaptation, Transfer Learning
- Explored the theories and algorithms for unsupervised and self-supervised learning.
- Conducted research on knowledge transfer strategies for Multi-Target Domain Adaptation (MTDA).

NLP Group, JD Explore Academy — February 2022 – October 2022
Independent Collaborator
Instructor: Dr. Liang Ding, Supervisor: Prof. Dacheng Tao
Sparse Training, Model Compression, Natural Language Understanding
- Explored parameter-efficient strategies for downstream fine-tuning.
- Conducted research on efficient dynamic neural networks in Computer Vision (CV) and Natural Language Processing (NLP).

Publications

1. **PAD-Net: An Efficient Framework for Dynamic Networks.**
   Shwai He, Liang Ding, **Daize Dong**, Boan Liu, Fuqiang Yu, Dacheng Tao.
   Proceedings of The 61st Annual Meeting of the Association for Computational Linguistics (ACL 2023).

2. **SparseAdapter: An Easy Approach for Improving the Parameter-Efficiency of Adapters.**
   Shwai He, Liang Ding, **Daize Dong**, Miao Zhang, Dacheng Tao.
   Findings of The 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP 2022).

3. **SD-Conv: Towards the Parameter-Efficiency of Dynamic Convolution.**
   Shwai He, Chenbo Jiang, **Daize Dong**, Liang Ding.
   IEEE/CVF Winter Conference on Applications of Computer Vision, 2023 (WACV 2023)

4. **Blending and Aggregating the Target for Blended-Target Domain Adaptation.**
   Tong Chu, **Daize Dong**, Jinhong Deng, Lixin Duan, Wen Li.
   arXiv preprint, 2023.

Honors and awards

Excellent Student Cadre *2020 – 2021*
University of Electronic Science and Technology of China

Excellent Student Scholarship *2020 – 2021*
University of Electronic Science and Technology of China

The Second Prize Scholarship *2019 – 2020*
University of Electronic Science and Technology of China

Technical Skills

Deep Learning: Natural Language Processing, Computer Vision, Transfer Learning, AI for Molecular Design, etc.
Programming Languages: Python, C/C++, Java, JavaScript, Matlab, etc.
Developer Tools: Linux, Git, Pytorch, OpenCV, Keras, etc.

Relevant Courses

Deep Learning: Machine Learning, Artificial Intelligence, Deep Learning for Computer Vision, Deep Learning for Natural Language Processing, Knowledge Representation and Reasoning, Data Mining and Big Data Analysis.
Optimization Algorithm: Optimization Theory and Methods, Introduction to Algorithms.
Mathematics: Differential Calculus, Linear Algebra, Probability Theory, Stochastic Process, Discrete Mathematics, Graph Theory, Multivariate Statistical Analysis, Causal Inference.
Computer Science: Computer Organization and Architecture, Compiler Principles, Computer Operating Systems, Database Principles and Applications, Information Retrieval, Software Engineering.