Jinhong Lin

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Education

Department of Electrical and Computer Engineering, UW-Madison GPA: 4.0/4.0
Research Master *Sep. 2023 – Present*

Department of Computer Science, UW-Madison GPA:3.97/4.0
Bachelor Degree *Sep. 2021 – May 2023*

Publications

* Denotes equal contribution

Accelerating Augmentation Invariance Pretraining

Neural Information Processing Systems (NeurIPS) 2024

Jinhong Lin, Cheng-En Wu, Yibing Wei, Pedro Morgado

- Developed an Acceleration Framework: Created a novel approach for faster ViT pretraining with dynamic sequence compression, achieving up to 4x speed-ups.
- Optimized Gradient Scheduling: Implemented a method for efficient gradient estimation with adaptive token dropout and patch scaling.
- Enhanced Computational Efficiency: Reduced resource demands in self-supervised learning, supporting sustainable AI training practices.

Patch Ranking: Token Pruning as Ranking Prediction for Efficient CLIP Inference

IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2025

Cheng-En Wu*, **Jinhong Lin***, Yibing Wei, Pedro Morgado

- Golden Ranking Pruning: Created a "Golden Ranking" for efficient token pruning in CLIP's Vision Transformer, reducing computation by up to 40% with minimal accuracy loss.
- Cross-Domain Transferability: Added learnable tokens to preserve accuracy post-pruning, enabling robust transfer across data domains
- Lightweight Predictor: Developed a predictor for real-time pruning, maintaining performance across datasets.

Appointments

Research Assistant Jan - Aug 2024
Mentor: Prof. Pedro Morgado *University of Wisconsin-Madison*

Research Assistant Oct. 2020-Sep. 2021
Mentor: Prof. Dengfeng Ke *Beijing Language and Culture University*

Teaching experience

Head Teaching Assistant Jan 2024 - Present
ECE 539 - Introduction to Artificial Neural Networks *University of Wisconsin-Madison*

Teaching Assistant Sep 2023 - Jan 2024
ECE 539 - Introduction to Artificial Neural Networks *University of Wisconsin-Madison*

Undergraduate Teaching Assistant Jan 2023 - May 2022
ECE 540 - Intro to Artificial Intelligence *University of Wisconsin-Madison*

Technical Skills

Languages: Python, Java, C/C++, Julia, Shell, Mathematica, C/C++, MATLAB, R
Libraries: Pandas, NumPy, Matplotlib, PyTorch, Scikit-learn, OpenCV, SciPy, Seaborn