Jinhong Lin

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Education

Department of Electrical and Computer Engineering, UW-Madison GPA: 4.0/4.0
Research Master in Electrical and Computer Engineering *May 2025 (Expected)*

Department of Computer Science, UW-Madison GPA:3.97/4.0
Bachelor of Science in Computer Science *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

- Proposed a self-supervised learning acceleration framework for Vision Transformers (ViTs), utilizing randomized token dropout and flexible patch scaling to effectively reduce the training budget.
- Proposed a gradient-based method for dynamic dropout and patch size selection during training, achieving 4× speedup on ImageNet across frameworks like SimCLR, MoCo, and DINO.

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

- Proposed the "Golden Ranking" framework to rank tokens in CLIP's Vision Transformer by relevance, confidence, and minimal impact, reducing computation by up to 40% with minimal accuracy loss.
- Proposed a lightweight, cross-domain transferable predictor to approximate the Golden Ranking, enabling real-time token pruning while preserving model performance during inference.

Appointments

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

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