

# Jinhong Lin

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## EDUCATION

### University of Wisconsin-Madison

*PhD in Electrical and Computer Engineering; GPA: 4.0/4.0*

Madison, WI

Sep 2025 – Present

*Research Master in Electrical and Computer Engineering; GPA: 4.0/4.0*

May 2025

*Bachelor of Science in Computer Science; GPA: 3.95/4.0*

May 2023

## EXPERIENCE

### Amazon Web Services (AWS)

Bellevue, WA

*Applied Scientist Intern*

Jun 2025 – Sep 2025

- Developed a novel post-training quantization (PTQ) algorithm specifically optimized for Vision-Language Models.
- Achieved state-of-the-art performance across six benchmarks under aggressive W3A16 (3-bit weight) and W4A16 (4-bit weight) configurations, significantly reducing memory footprint without compromising accuracy.

### University of Wisconsin-Madison

Madison, WI

*Research Assistant*

Jan 2024 – Present

- Conducting research on efficient computer vision and self-supervised learning under the mentorship of Prof. Pedro Morgado and Prof. Yin Li.

## PUBLICATIONS

\* Denotes equal contribution

### An Efficient Curriculum for Masked Image Modeling [paper]

*Computer Vision and Pattern Recognition (CVPR), Nashville, 2025*

**Jinhong Lin**, Cheng-En Wu, Huanran Li, Jifan Zhang, Yu Hen Hu, Pedro Morgado

- Proposed a prototype-driven curriculum for Masked Image Modeling (MIM) that improves early-stage training stability and accelerates convergence.
- Achieved 47.4% NN accuracy on ImageNet-1K with a  $16\times$  speedup in nearest neighbor evaluation, significantly outperforming standard MAE.
- Developed a temperature-based annealing scheme to gradually expand the training distribution, enhancing representation learning efficiency.

### Accelerating Augmentation Invariance Pretraining [paper]

*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.
- Designed a gradient-based method for dynamic dropout and patch size selection during training, achieving  $4\times$  speedup on ImageNet across frameworks like SimCLR, MoCo, and DINO.

### TrackVerse: A Large-Scale Object-Centric Video Dataset [project]

*IEEE/CVF International Conference on Computer Vision (ICCV) 2025*

Yibing Wei, Samuel Church, Victor Suciu, **Jinhong Lin**, Cheng-En Wu, Pedro Morgado

- Contributed to the curation and baseline evaluation of TrackVerse, a large-scale video dataset designed for image-level representation learning.

### Patch Ranking: Token Pruning as Ranking Prediction [paper]

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

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

- Introduced the “Golden Ranking” framework to rank ViT tokens by relevance and confidence, reducing computation by up to 40% with minimal accuracy loss.
- Proposed a lightweight, cross-domain transferable predictor to approximate ranking, enabling real-time inference acceleration.