Hao Yin

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Research Interests

- Enhancement of visual reasoning capabilities in Multimodal Large Language Models
- Inference Acceleration and Hallucination Mitigation in Multimodal Large Language Models

Education

University of Science and Technology of China, M.Sc. in Data Science — Sep 2022 – Jun 2025
School of Artificial Intelligence and Data Science GPA: 3.96/4.30 (2/30)

China University of Mining and Technology, B.Sc. in Applied Mathematics — Sep 2018 – Jun 2022
School of Mathematics GPA: 4.47/5.00 (2/185)

Publications

Lifting the Veil on Visual Information Flow in MLLMs: Unlocking Pathways to Faster Inference — **CVPR 2025 (Poster)**

- **Authors:** Hao Yin, Guangzong Si, Zilei Wang
- **Paper:** arxiv.org/abs/2503.13108
- **Code:** github.com/ustc-hyin/HiMAP

ClearSight: Visual Signal Enhancement for Object Hallucination Mitigation in Multimodal Large Language Models — **CVPR 2025 (Poster)**

- **Authors:** Hao Yin, Guangzong Si, Zilei Wang
- **Paper:** arxiv.org/abs/2503.13107
- **Code:** github.com/ustc-hyin/ClearSight

The Mirage of Performance Gains: Why Contrastive Decoding Fails to Address Multimodal Hallucination — **ICML 2025 (Review)**

Authors: Hao Yin, Guangzong Si, Zilei Wang

Research Experience

Graduate Researcher, USTC – Hefei, Anhui, China — Jan 2024 – Jun 2025

- Conducted systematic research on enhancing inference efficiency and mitigating hallucinations in MLLMs.
- Proposed a hierarchical modality-aware pruning strategy, motivated by the observation that the dominant visual information flow shifts with model depth, leading to substantial improvements in inference speed.
- Addressed object hallucination by strengthening visual attention in critical layers, effectively circumventing the inherent drawbacks of contrastive decoding, such as degradation in output quality and inference latency.
- The core findings are presented in two first-author papers accepted at CVPR 2025.

Honors and Awards

National Scholarship, China University of Mining and Technology — Oct 2019 / Oct 2020

- Awarded twice for outstanding academic performance and merit
- Ranked 1st out of 185 undergraduate students (Top 1%)

Silver Medalist, Kaggle Competition – Cassava Leaf Disease Classification — Feb 2021

- Placed 192nd out of 3,900 teams (Top 4.9%)

Silver Medalist, Kaggle Competition – Jane Street Market Prediction — Aug 2021

- Placed 155th out of 4,245 teams (Top 3.6%)