

Shaozhe Hao

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EDUCATION

The University of Hong Kong

Ph.D. Candidate in Computer Science, School of Computing and Data Science
Supervisor: Prof. Kenneth K.Y. Wong and Prof. Kai Han

Hong Kong SAR
Sep. 2021 - Jul. 2025 (expected)

Huazhong University of Science and Technology

B.Eng. in Automation, GPA: 3.97/4.0, Rank: 2/189

Wuhan, CN
Sep. 2017 - Jun. 2021

SELECTED PUBLICATIONS

See the full publication list on Google Scholar and the corresponding codes on GitHub.

Research interest: Generative models, Diffusion models, Autoregressive models, Representation learning

- Shaozhe Hao et al.** BiGR: Harnessing Binary Latent Codes for Image Generation and Improved Visual Representation Capabilities. *arXiv*, 2024. Submitted to ICLR 2025.
 - We introduce BiGR, a novel conditional image generation model using compact binary latent codes for generative training, focusing on enhancing both generation and representation capabilities. [project]
- Shaozhe Hao et al.** ConceptExpress: Harnessing Diffusion Models for Single-image Unsupervised Concept Extraction. *ECCV (Oral)*, 2024.
 - We present a novel diffusion-based method that can extract multiple instance-level concepts from a single image without any supervision like masks, concept words, or concept numbers. [project]
- Shaozhe Hao et al.** ViCo: Detail-Preserving Visual Condition for Personalized Text-to-Image Generation. *arXiv*, 2023. Submitted to IJCV.
 - We introduce a novel, lightweight, plug-and-play method that integrates visual conditioning into personalized text-to-image generation. We enable efficient optimization that leads to improved performance. [project]
- Shaozhe Hao et al.** CiPR: An Efficient Framework with Cross-instance Positive Relations for Generalized Category Discovery. *Transactions on Machine Learning Research (TMLR)*, 2024.
 - We address generalized category discovery by exploiting cross-instance positive relations for contrastive learning. We introduce a novel semi-supervised hierarchical clustering algorithm to produce such relations. [project]
- Shaozhe Hao et al.** Learning Attention as Disentangler for Compositional Zero-shot Learning. *CVPR*, 2023.
 - We address compositional zero-shot learning by using cross-attention to disentangle concept embeddings, while regularizing optimization with the earth mover’s distance at the attention level. [project]

EXPERIENCE

Intellifusion Technologies

Research intern Mentor: Dr. Xianbiao Qi

Shenzhen, CN
Apr. 2024 - Now

Developed a novel conditional image generation model, BiGR, with 1.5B parameters, utilizing 32 A800 GPUs for training. BiGR enables high-quality image generation following class conditions.

The University of Hong Kong

Research assistant Advisor: Prof. Kenneth K.Y. Wong

Hong Kong SAR
Jul. 2020 - Aug. 2020

Developed effective models for masked face recognition, achieving 98.23% verification accuracy on the masked LFW benchmark.

HONORS & AWARDS

- Arthur & Louise May Memorial Scholarship, HKU 2023
- Postgraduate Scholarships, HKU 2021-2025
- Outstanding Graduate, HUST 2021
- National Scholarship of China 2018, 2019