

HAORAN TANG

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EDUCATION

Purdue University

Ph.D., Computer Science

Advisor: Rajiv Khanna

Present

University of Pennsylvania

M.S.E., Robotics

Thesis Advisor: Pratik Chaudhari

May 2023

GPA: 3.97/4.0

University of Illinois at Urbana-Champaign

B.S., Computer Engineering

Minor in Mathematics

May 2021

GPA: 3.73/4.0

EXPERIENCE

Research Intern, Generative AI

Baidu USA

June 2023 - Nov 2023

Sunnyvale, CA

- Developed a new anime-figure dataset with clothing identities labeled by large VLM, and proposed new training pipeline and task for diffusion-based personalization which can compose concepts.
- Proposed a new conditional encoder architecture to retrieve characteristic information from multiple reference images, and a new metric family to measure the flexibility and the identity-diversity balance of the generation using VQA models.
- Took full responsibility in constructing the benchmark, deriving the new metric group based on VQA model feedback, conducting multi-node pre-training and single-card inference, and analyzing the results.

Research Assistant, Deep Learning

University of Pennsylvania; University of Illinois Urbana-Champaign

June 2021 - May 2023

Philadelphia, PA

- Worked with Prof. Pratik Chaudhari (UPenn) on the low-dimensionality of multiple tasks in the prediction space. Embedded task-specific weights as trajectories in the defined manifold, which function as more informative foundation priors for transfer learning. Conducted experiments and analysis, and completed master's thesis based on the findings.
- Worked with Prof. Jianbo Shi (UPenn) on autoencoding. Investigated multi-resolution hash tables as intermediate layers of autoencoders to process coordinate information, which contribute to reconstructing images. Conducted experiments and the analysis of translational invariance of hash functions.
- Worked with Prof. Yuxiong Wang (UIUC) on contrastive learning. Designed a systematic data corruption pipeline to investigate the higher dependency of contrastive learning on spatial inductive bias than supervised learning, and analyzed the observations from both extensive empirical studies and feature space behaviors. Published results on ICCV.

PUBLICATIONS AND PREPRINTS (* denotes equal contribution)

Sharpness-Aware Machine Unlearning

Haoran Tang, Rajiv Khanna

arXiv

RetriBooru: Leakage-Free Retrieval of Conditions from Reference Images for Subject-Driven Generation

Haoran Tang, Jieren Deng, Zhihong Pan, Hao Tian, Pratik Chaudhari, Xin Zhou

arXiv

Contrastive Learning Relies More on Spatial Inductive Bias Than Supervised Learning: An Empirical Study

Yuanyi Zhong*, Haoran Tang*, Junkun Chen*, Yuxiong Wang

ICCV 2023

HashEncoding: Autoencoding with Multiscale Coordinate Hashing

Lukas Zhornyak*, Zhengjie Xu*, Haoran Tang*, Jianbo Shi

arXiv

Shuffle Augmentation of Features from Unlabeled Data for Unsupervised Domain Adaptation

Changwei Xu*, Jianfei Yang*, Haoran Tang, Han Zou, Cheng Lu, Tianshuo Zhang

arXiv

SERVICE

Conference Reviewer	CVPR (2022 – 24), ECCV (2022 – 24), ICCV (2023) ICLR (2025), NeurIPS (2025)
Teaching Assistant	CS 587 Foundations Of Deep Learning, SP25, Purdue University CS 314 Numerical Methods, FA24, Purdue University CIS 680 Advanced Topics in Machine Perception, FA22, University of Pennsylvania

SKILLS

Programming Languages	Python, C++
Tools/Softwares	PyTorch, HuggingFace, Slurm, Git, SSH, Jupyter, VS Code
Operating Systems	Linux, Mac OS, Windows