Han Li

Email · Google Scholar · Homepage

Education

University of California, Riverside, CA 2022 – Present

Ph.D. in Computer Science
Research Areas: Machine Learning, Computer Vision, Generative Models
Advisor: Greg Ver Steeg

Huazhong University of Science and Technology, Wuhan, China 2018 – 2022

B.S. in Artificial Intelligence&Automation

Experience

Project: Inference-time scaling for Flow-based Image Editing with VLM Guidance
- Employed vision–language model (VLM) as an inference-time discriminator to enhance flow-based image editing, achieving precise prompt alignment without extra training.

Project: Training-Free Video Super-Resolution
- Built an inference-only pipeline that upsamples outputs from pretrained video generation models to 2× spatial resolution, delivering sharper 1080p+ video without additional finetuning.

Project: Protein flexibility and drug discovery.
- Developed diffusion based method to model protein conformational change using pretrained protein LLM embeddings,

Project: Interpretable Diffusion via Information Decomposition.
- Revealed the relationship between pixels and prompts in Stable Diffusion, facilitating compositional understanding, semantic localization without supervision, and quantitative analysis of editing effects.

Publications

1. Xinru Qiu, **Han Li**, Greg Ver Steeg, Adam Godzik. Advances in AI for Protein Structure Prediction: Implications for Cancer Drug Discovery and Development. *Biomolecules*, 2024.
2. Xianghao Kong, **Han Li**, Dani Yogatama, Greg Ver Steeg. Interpretable Diffusion via Information Decomposition. *ICLR*, 2024.
3. **Han Li**, Ran Wei, Wenyu Wang, Nanpeng Yu. Predicting COVID-19 Transmission in Southern California with Machine Learning Methods. *IEEE International Conference on Big Data Analytics*, 2023.

Teaching Experience

- Teaching Assistant, *CS 229 Advanced Machine Learning*, UCR — Spring 2024
- Teaching Assistant, *CS 010C Data Structures & Algorithms*, UCR — Summer 2024
- Teaching Assistant, *CS 228 Deep Learning*, UCR — Fall 2024

Technical Skills

- Languages: Python, C++
- Frameworks: PyTorch, Diffusers, HuggingFace, CUDA
- Tools: Git, Docker, Weights&Biases

Honors & Awards

Dean's Distinguished Fellowship, University of California, Riverside	2022
Outstanding Bachelor Thesis Award, HUST	2022
Finalist, COMAP Mathematical Contest in Modeling	2021
First Prize, National Olympiad in Chemistry, China	2017