

Ligong Han

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EDUCATION

Rutgers University	New Brunswick, NJ
• Ph.D. in Computer Science	09/2018-10/2024
Carnegie Mellon University	Pittsburgh, PA
• Research MS. in Biomedical Engineering	08/2015-12/2016
Southeast University	Nanjing, Jiangsu, China
• B. Eng. in Biomedical Engineering	08/2010-06/2014
◦ Chien-Shiung Wu Honor College (Talent Training Program in Electrical and Computer Engineering)	

RESEARCH EXPERIENCE

Red Hat AI Innovation MIT-IBM Watson AI Lab	Cambridge, MA, USA
• Principal Research Scientist.	08/2024-Present
◦ KV cache quantization, diffusion-based LLMs (dLLM/DLM)	
◦ Generative modeling for complex mechanical systems with constraints, w/ Prof. Faez Ahmed (MIT)	
Rutgers, The State University of New Jersey	Piscataway, NJ, USA
• Research Assistant at CBIM. Advisor: Dimitris Metaxas	09/2018-07/2024
◦ Generative models, Diffusion models, GANs	
◦ Representation learning, Disentanglement, Domain adaptation	
Google Research	Mountain View, CA, USA
• Research Intern. Mentor: Yinxiao Li, Feng Yang & Han Zhang	06/2022-03/2023
◦ Diffusion model, text-to-image generation, image editing, parameter efficient fine-tuning	
MIT-IBM Watson AI Lab	Cambridge, MA, USA
• Research Intern. Mentor: Akash Srivastava	03/2022-06/2022
◦ Improving contrastive learning with generative models	
Snap Inc.	Santa Monica, CA, USA
• Research Intern in the Creative Vision Group at Snap Research. Mentor: Jian Ren	05/2021-10/2021
◦ Transformer-based video generation with multimodality control signals	
NEC Laboratories America Inc.	Princeton, NJ, USA
• Research Intern at Machine Learning Department. Mentor: Martin Renqiang Min	06/2020-08/2020
◦ Recurrent generative modeling for videos, disentangled sequential representation learning	
Tencent	Shenzhen, China
• Intern at YouTu X-Lab. Mentor: Xin Tao	06/2018-08/2018
◦ Conditional GAN-based image style transfer	
Carnegie Mellon University	Pittsburgh, PA, USA
• Visitor at The Robotics Institute. Advisor: Deva Ramanan	03/2017-02/2018
◦ Learning generative models of tissue organization with supervised GANs	
◦ Semantic segmentation for sub-cellular imagery	
Carnegie Mellon University	Pittsburgh, PA, USA
• Research Assistant at CyLab Biometrics Center. Advisor: Marios Savvides	07/2016-11/2016
◦ Contextual recurrent residual network for semantic segmentation; level-set-based cell segmentation	

PUBLICATIONS (*equal contribution, † corresponding author)

- A Nobari, L Regenwetter, C Picard, **L Han**, F Ahmed. “[Optimize Any Topology: A Foundation Model for Shape- and Resolution-Free Structural Topology Optimization](#),” *Neural Information Processing Systems (NeurIPS)*, 2025

- H Shi*, Y Wang*, **L Han**, H Zhang, H Wang. “Training-Free Bayesianization for Low-Rank Adapters of Large Language Models,” *39th Conference on Neural Information Processing Systems (NeurIPS)*, 2025
- M Eyceoz, N Nayak, H Wang, **L Han**, A Srivastava. “Hopscotch: Discovering and Skipping Redundancies in Language Models,” *EMNLP*, 2025
- H Wang*, **L Han***, K Xu, A Srivastava. “SQuat: Subspace-orthogonal KV Cache Quantization,” *COLM*, 2025
- A Nobari, L Regenwetter, C Picard, **L Han**, F Ahmed. “Optimize Any Topology: A Foundation Model for Shape- and Resolution-Free Topology Optimization,” *submitted*, 2025
- X He, **L Han**[†], Q Dao, S Wen, M Bai, D Liu, *et al.* “DICE: Discrete Inversion Enabling Controllable Editing for Multinomial Diffusion and Masked Generative Models” Accepted at *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025
- Z Wang, S Hu, S Zhao, X Lin, F Xu, Z Li, **L Han**, *et al.* “MLLM-as-a-Judge for Image Safety without Human Labeling” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025
- Z Li, Z Xu, **L Han**, Y Gao, S Wen, D Liu, H Wang, D Metaxas. “Implicit In-context Learning” *International Conference on Learning Representations (ICLR)*, 2025
- C Jin, Y Li, M Zhao, S Zhao, Z Wang, X He, **L Han**, T Che, D Metaxas. “LoR-VP: Low-Rank Visual Prompting for Efficient Vision Model Adaptation” *International Conference on Learning Representations (ICLR)*, 2025
- X Zhang*, S Wen*, **L Han***[†], F Xu, A Srivastava, J Hunag, H Wang, M Tao, V Pavlovic, D Metaxas. “SODA: Spectral Orthogonal Decomposition Adaptation for Diffusion Models,” *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2025 [[pdf](#)][[code](#)]
- Y Wang, H Shi, **L Han**, D Metaxas, H Wang. “BLoB: Bayesian Low-Rank Adaptation by Backpropagation for Large Language Models,” *38th Conference on Neural Information Processing Systems (NeurIPS)*, 2024 [[pdf](#)]
- A Stathopoulos, **L Han**, D Metaxas. “Score-Guided Diffusion for 3D Human Recovery” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024 [[pdf](#)][[webpage](#)][[code](#)]
- **L Han**[†], S Wen, Q Chen, Z Zhang, K Song, M Ren, R Gao, *et al.* “ProxEdit: Improving Tuning-Free Real Image Editing with Proximal Guidance,” *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2024 [[pdf](#)][[code](#)]
- K Song, **L Han**, B Liu, D Metaxas, A Elgammal. “Diffusion Guided Domain Adaptation of Image Generators,” *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2024 [[pdf](#)][[webpage](#)][[code](#)]
- Q Chen, C Shui, **L Han**, M Marchand. “On the Stability-Plasticity Dilemma in Continual Meta-Learning: Theory and Algorithm,” *37th Conference on Neural Information Processing Systems (NeurIPS)*, 2023 [[pdf](#)][[code](#)]
- **L Han**[†], Y Li, H Zhang, P Milanfar, D Metaxas, F Yang. “SVDiff: Compact Parameter Space for Diffusion Fine-Tuning,” *IEEE International Conference on Computer Vision (ICCV)*, 2023 [[pdf](#)][[webpage](#)][[code](#)]
- X He, C Tan, **L Han**, B Liu, L Axel, K Li, D Metaxas. “DMCVR: Morphology-Guided Diffusion Models for 3D Cardiac Volume Reconstruction,” *Medical Image Computing and Computer-Assisted Intervention (MICCAI)*, 2023 [[pdf](#)][[code](#)]
- **L Han**, S Han, S Sudalairaj, C Loh, R Dangovski, F Deng, P Agrawal, D Metaxas, L Karlinsky, T Weng, A Srivastava. “Constructive Assimilation: Boosting Contrastive Learning Performance through View Generation Strategies,” *CVPR Workshop on Generative Models for Computer Vision*, 2023 [[pdf](#)]
- Z Zhang, **L Han**[†], A Ghosh, D Metaxas, J Ren. “SINE: SINGLE Image Editing with Text-to-Image Diffusion Models,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023 [[webpage](#)][[code](#)]
- A Stathopoulos, G Pavlakos, **L Han**, D Metaxas. “Learning Articulated Shape with Keypoint Pseudo-labels from Internet Images,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023 [[pdf](#)]
- R Gao, M Saar-Tsechansky, M De-Arteaga, **L Han**, M Lee, W Sun, M Lease. “Learning Complementary Policies for Human-AI Teams.” Under Review at *Management Science*, **Best Student Paper** at *Conference on Information Systems and Technology (CIST)*, 2023
- **L Han**, J Ren, H Lee, F Barbieri, S Minaee, D Metaxas, S Tulyakov. “Show Me What and Tell Me How: Video Synthesis via Multimodal Conditioning,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022 [[pdf](#)][[slides](#)][[webpage](#)][[code](#)]

- R Gao, M Biggs, W Sun, **L Han**. “[Enhancing Counterfactual Classification Performance via Self-Training](#),” 36th *AAAI Conference on Artificial Intelligence (AAAI)*, 2022 [[pdf](#)]
- **L Han**[†], SH Musunuri, MR Min, R Gao, Y Tian, D Metaxas. “[AE-StyleGAN: Improved Training of Style-Based Auto-Encoders](#),” *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2022 [[pdf](#)][[code](#)]
- **L Han**[†], MR Min, A Stathopoulos, Y Tian, R Gao, A Kadav, D Metaxas. “[Dual Projection Generative Adversarial Networks for Conditional Image Generation](#),” *IEEE International Conference on Computer Vision (ICCV)*, 2021 [[pdf](#)][[slides](#)][[code](#)]
- R Gao, M Saar-Tsechansky, M De-Arteaga, **L Han**, M Lee, M Lease. “[Human-AI Collaboration with Bandit Feedback](#),” 30th *International Joint Conference on Artificial Intelligence (IJCAI)*, 2021 [[pdf](#)]
- J Han*, MR Min*, **L Han***, X Zhang, LE Li. “[Disentangled Recurrent Wasserstein Autoencoder](#),” 9th *International Conference on Learning Representations (ICLR)*, 2021 (**Spotlight, scored among top 4%**) [[pdf](#)][[slides](#)]
- **L Han**[†], A Stathopoulos, T Xue, D Metaxas. “[Unbiased Auxiliary Classifier GANs with MINE](#),” **CVPR Workshop on Adversarial Machine Learning in Computer Vision**, 2020 (**Oral, DeepMind Travel Award**) [[pdf](#)]
- **L Han**[†], R Gao, M Kim, X Tao, B Liu, D Metaxas. “[Robust Conditional GAN from Uncertainty-Aware Pairwise Comparisons](#),” 34th *AAAI Conference on Artificial Intelligence (AAAI)*, 2020 [[pdf](#)][[slides](#)]
- **L Han**[†], Y Zou, R Gao, L Wang, D Metaxas. “[Unsupervised Domain Adaptation via Calibrating Uncertainties](#),” **CVPR Workshop on Uncertainty and Robustness in Deep Visual Learning**, 2019 [[pdf](#)]
- **L Han**[†], RF Murphy, D Ramanan. “[Learning Generative Models of Tissue Organization with Supervised GANs](#),” *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2018 [[pdf](#)]
- THN Le, CN Duong, **L Han**, K Luu, KG Quach, M Savvides. “[Deep Contextual Recurrent Residual Networks for Scene Labeling](#),” *Pattern Recognition*, 2018 [[pdf](#)]

ACADEMIC SERVICE

- **Area Chair:** ICLR, 2026
- **Technical Program Committee:** Dynamic Data Driven Applications Systems (**DDDAS**), 2024
- **Journal Review:** IJCV, TIP, Pattern Recognition, Computer Methods and Programs in Biomedicine, TCSVT
- **Conference Review:** CVPR, ICCV, ECCV, WACV, ACCV, NeurIPS, ICLR, ICML, SIGGRAPH Asia, AISTATS

HONORS & AWARDS

- **Best Student Paper Award**, Conference on Information Systems and Technology (CIST), 2023.
- **Spotlight**, scored among top 4%, International Conference on Learning Representations (ICLR), 2021.
- **Best Student Paper Award**, Future Technologies Conference (FTC), 2020.
- **DeepMind Travel Award** for CVPR Workshop on Adversarial Machine Learning in Computer Vision.

OPEN-SOURCE CONTRIBUTIONS

- **GitHub Repo**, [ScoreHMR](#), 397 stars, CVPR 2024 paper.
- **GitHub Repo**, [SVDiff-pytorch](#), 379 stars, ICCV 2023 paper.
- **MATLAB File Exchange Pick of the Week**, [Path Simplification and Binary Image Reconstruction Made Easy](#), 1.8K downloads, 2018.
- **MATLAB File Exchange Pick of the Week**, [Aligning Axes Labels](#), 7.3K downloads, 2015.
- **MATLAB File Exchange**, [2-D Tomographic Reconstruction Toolbox](#), 4.7K downloads, 2013.

SKILLS

- **Coding:** Python, MATLAB, PyTorch, JAX, TensorFlow, LaTeX, Java, HTML, ...
- **Languages:** English, Mandarin Chinese.