

Dongting Hu

Pronouns: he

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Education

<i>Sep 2014— Jun 2018</i>	Degree: Bachelor of Engineering in Mechanical Engineering Where: Donghua University, Shanghai, CN GPA: 82.3/100
<i>Mar 2019— Jan 2020</i>	Degree: Graduate Diploma in Data Science Where: The University of Melbourne, Victoria, AU GPA: 84.9/100 (H1)
<i>Mar 2020— Jul 2021</i>	Degree: Master of Science in Data Science Where: The University of Melbourne, Victoria, AU GPA: 83.8/100 (H1)
<i>Sep 2021—</i>	Degree: Doctor of Philosophy in Science Where: The University of Melbourne, Victoria, AU GPA: - Principle supervisor: Dr Mingming Gong Co-supervisor: Dr Liuhua Peng, Dr Tingjin Chu

Research Interests

I am interested in advanced topics within computer vision and generative models, with a focus on refining image manipulation and generation techniques. My work involves exploring methodologies for Neural Radiance Fields, aimed at constructing efficient, high-fidelity volumetric scenes, and developing effective neural scene editing techniques. Currently, my interests lie in generative AI, including 2D text-to-image generation and 3D assets generation for novel view synthesis.

Publications

- Lifting 2D Diffusion Prior for 3D Object Removal via Tuning-Free Latents Alignment.
D. Hu, H. Fu, J. Guo, L. Peng, T. Chu, F. Liu, T. Liu, M. Gong.
Advances in Neural Information Processing Systems (NeurIPS) 2024.
- Multiscale Representation for Real-Time Anti-Aliasing Neural Rendering.
D. Hu, Z. Zhang, T. Hou, T. Liu, H. Fu, and M. Gong.
International Conference on Computer Vision (ICCV) 2023.
- Uncertainty Quantification in Depth Estimation via Constrained Ordinal Regression.
D. Hu, L. Peng, T. Chu, X. Zhang, Y. Mao, H. Bondell, and M. Gong.
European Conference on Computer Vision (ECCV) 2022.
- Towards Evaluating the Robustness of DNNs for Query-Limited Black-box Scenario.
R. Liu, K. Lam, W. Zhou, S. Wu, J. Zhao, **D. Hu**, M. Gong.
IEEE Transactions on Multimedia.

- Generating imperceptible adversarial examples by flow field and normalize flow-based model.
R. Liu, X. Jin, **D. Hu**, J. Zhang, Y. Wang, J. Zhang, W. Zhou.
Frontiers in Neurorobotics.
- Efficient and High-Quality Rendering with 3D Gaussian Prototypes.
Z. Gao, **D. Hu**, H. Fu, T. Liu, M. Gong, K. Zhang.
In submission.
- Uncertainty Quantification in Stereo Matching.
W. Cai, **D. Hu**, H. Fu, J. Deng, W. Yang, M. Gong.
In submission.
- Stochastic Diffusion: A Diffusion Probabilistic Model for Stochastic Time Series Forecasting.
Y. Liu, S. Wijewickrema, **D. Hu**, C. Bester, S. O’Leary, J. Bailey.
In submission.
- High-Fidelity Face Reenactment via Facial Parametric Conditioned Diffusion Models.
K. Chen, S. Seneviratne, W. Wang, **D. Hu**, S. Saha, M. Hasan, S. Rasnayaka, T. Malepathirana, M. Gong, S. Halgamuge.
In submission.

Teaching

*Aug 2020—
Dec 2023*

Position: Teaching Assistant

Where: The University of Melbourne, Victoria, AU

I served as a casual tutor at the School of Mathematics and Statistics, where I assisted with labs, workshops, invigilation, and marking for several courses. My responsibilities spanned undergraduate subjects including MAST20005 (Statistics) and MAST30025 (Linear Statistical Models), as well as postgraduate subjects such as MAST90082 (Mathematical Statistics), MAST90104 (Statistical Learning), and MAST90138 (Multivariate Statistics).

Professional Services

- Conference Reviewer: ICLR (2024), ECCV (2024, 2023), BMVC (2024, 2023), ECAI (2024, 2023), AJCAI (2024, 2023)
- Journal Reviewer: TIST, Neural Networks, Frontiers in Computer Science

Academic Talks

- “Uncertainty Quantification in Depth Estimation via Constrained Ordinal Regression”, AI TIME, Dec 7, 2022 (online)

Honors and awards

- Melbourne Research Scholarship (2021-2025)
- Science Abroad Travelling Scholarship (SATS), 2023

Work Background

- 3D Computer Vision: Neural Radiance Field, Anti-Aliasing Rendering, Depth Estimation, 3D Generation, Motion Animation, Hybrid Rendering.
- Machine Learning: Uncertainty Quantification, Adversarial Learning, Semi-supervised Learning, Domain Transfer, Generative Models.
- Familiar Models: Diffusion Models, NeRFs, 3DGS, GANs, etc.

Technical Skills

- Programming Language: C, Java, Python, R, SQL, MATLAB, Java Script
- Framework/Software: Pytorch, Tensorflow, CUDA, Jax, WebGL, Ansible, Docker