Hanshu YAN 严汉书

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Hanshu is a senior research scientist at Rhymes.AI Singapore. He obtained PhD from NUS in 2022 with a research focus on robust deep vision models and optimizers. His current work focuses on multimodal generation and understanding. He has led or co-led several relevant projects, including MagicEdit for video editing, AdjointDPM for controllable generation, and PeRFlow for diffusion acceleration. He was also involved in several large-scale video generation projects, including MagicVideo and Allegro. He will be dedicated to developing efficient and powerful models for video generation and understanding.

Education

National University of Singapore
Ph.D. in Deep Learning, 2022
Supervisors: Prof. Vincent Y. F. Tan and Dr. Jiashi Feng

National University of Singapore
M.Sc. in Electrical and Computer Engineering, 2017
Mentor: Prof. Dipti Srinivasan

Beihang University, BUAA
B.Eng. in Electrical Engineering, 2015
B.Sc. in Applied Mathematics, 2015

Experiences

Senior Research Scientist, Rhymes.AI, Singapore	07/2024 - Present
Research Scientist, ByteDance/TikTok, Singapore	07/2022 - 07/2024
Research Intern, Sea AI Lab, Singapore	03/2021 - 09/2021
Teaching Assistant, NUS, Singapore	08/2018 - 03/2021
Research Engineer, NUS, Singapore	07/2017 - 07/2018

Selected Publications

*Video generation/editing** , *Generative modeling** , *ML robustness/optimization**

* ClassDiffusion: More Aligned Personalization Tuning with Explicit Class Guidance. *arXiv 2024.*
Jiannan Huang, Jun Hao Liew, Hanshu Yan, Yuyang Yin, Yao Zhao, Yunchao Wei

* InstaDrag: Lightning Fast and Accurate Drag-based Image Editing Emerging from Videos. *arXiv 2024.*
Yujun Shi, Jun Hao Liew, Hanshu Yan, Vincent Y. F. Tan, Jiashi Feng

* MagicVideo-V2: Multi-Stage High-Aesthetic Video Generation. *arXiv 2024.*
Weimin Wang, Jiawei Liu, Zhijie Lin, Jiangqiao Yan, Shuo Chen, Chetwin Low, Tuyen Hoang, Jie Wu, Jun Hao Liew, Hanshu Yan, Daquan Zhou, Jiashi Feng

* MagicVideo: Efficient Video Generation With Latent Diffusion Models *arXiv 2022*
Daquan Zhou, Weimin Wang, Hanshu Yan, Weiwei Lv, Yizhe Zhu, Jiashi Feng

* MagicEdit: High-Fidelity and Temporally Coherent Video Editing *arXiv 2023*
Jun Hao Liew*, Hanshu Yan*, Jianfeng Zhang, Zhongcong Xu, Jiashi Feng

* MagicAvatar: Multimodal Avatar Generation and Animation *arXiv 2023*
Jianfeng Zhang*, Hanshu Yan*, Zhongcong Xu*, Jiashi Feng, Jun Hao Liew*

* MagicAnimate: Temporally Consistent Human Image Animation using Diffusion Model *CVPR 2024*

Zhongcong Xu, Jianfeng Zhang, Jun Hao Liew, Hanshu Yan, Jia-Wei Liu, Chenxu Zhang, Jiashi Feng, Mike Zheng Shou

* DragDiffusion: Harnessing Diffusion Models for Interactive Point-based Image Editing *CVPR 2024*

Yujun Shi, Chuhui Xue, Jun Hao Liew, Jiachun Pan, Hanshu Yan, Wenqing Zhang, Vincent Y. F. Tan, Song Bai

* MagicMix: Semantic Mixing with Diffusion Models *arXiv 2022*

Jun Hao Liew*, Hanshu Yan*, Daquan Zhou, Jiashi Feng

* PeRFlow: Piecewise rectified flow as universal plug-and-play accelerator *NeurIPS 2024*

Hanshu Yan, Xingchao Liu, Jiachun Pan, Jun Hao Liew, Qiang Liu, Jiashi Feng

* SAG: Towards Accurate Guided Diffusion Sampling through Symplectic Adjoint Method. *arXiv 2023*

Jiachun Pan*, Hanshu Yan*, Jun Hao Liew, Jiashi Feng, Vincent Y. F. Tan

* AdjointDPM: Adjoint Sensitivity Method for Gradient Backpropagation of Diffusion Probabilistic Models. *ICLR 2024.*

Jiachun Pan*, Jun Hao Liew, Vincent Y. F. Tan, Jiashi Feng, Hanshu Yan*

* Towards Adversarially Robust Deep Image Denoising. *IJCAI 2022.*

Hanshu Yan, Jingfeng Zhang, Jiashi Feng, Masashi Sugiyama, Vincent Y. F. Tan

* CIFS: Improving Adversarial Robustness of CNNs via Channel-wise Importance-based Feature Selection. *ICML 2021.*

Hanshu Yan, Jingfeng Zhang, Gang Niu, Jiashi Feng, Vincent Y. F. Tan, Masashi Sugiyama

* On Robustness of Neural Ordinary Differential Equations. *ICLR 2020, Spotlight.*

Hanshu Yan, Jiawei Du, Vincent Y. F. Tan, Jiashi Feng

* Efficient Sharpness-aware Minimization for Improved Training of Neural Networks. *ICLR 2022.*

Jiawei Du, Hanshu Yan, Jiashi Feng, Joey Tianyi Zhou, Liangli Zhen, Rick S. M. Goh, Vincent Y. F. Tan

* Towards Understanding Why Lookahead Generalizes Better Than SGD and Beyond. *NeurIPS 2021.*

Pan Zhou, Hanshu Yan, Xiaotong Yuan, Jiashi Feng, Shuicheng Yan

Reviewership ICML, ICLR, NeurIPS, CVPR, ICCV, ACM-MM, etc.

Awards NUS Research Scholarship, 2018-2022
Outstanding Graduating Student (B.Eng @ BUAA), 07/2015