Yifan Jiang

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Working Experience

Apple AI/ML, Seattle, WA, USA — March. 2024 – Present

Senior Research Scientist at AI/ML Argos Team,

Education

The University of Texas at Austin, Austin, USA — 2020 – 2024

Ph.D. in Electrical and Computer Engineering[1]

- Advisor: Zhangyang (Atlas) Wang
- Committee: Alan Bovik, Sandeep Chinchali, Mingyuan Zhou, David Z. Pan

Research Interests: Generative Model, Neural Rendering, Computational Photography

Huazhong University of Science and Technology, Wuhan, China — 2015 – 2019

B.E. in Electronic Information Engineering

Publications

(* indicates equal contribution)

[ICLR] **Y. Jiang**, H. Tang, J. Chang, D. Xu, L. Song, Z. Wang and L. Cao, "Efficient-3DiM: Learning a Generalizable Single-image Novel-view Synthesizer in One Day", *International Conference on Learning Representations, 2024*

[CVPR] **Y. Jiang**, H. Peter, B. Mildenhall, D. Xu, J. T. Barron, and Z. Wang, "AligNeRF: High-Fidelity Neural Radiance Fields via Alignment-Aware Training", *IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2023*

[ECCV] **Y. Jiang***, D. Xu*, P. Wang, Z. Fan, H. Shi, and Z. Wang. "SinNeRF: Training Neural Radiance Fields on Complex Scenes from a Single Image", *European Conference on Computer Vision, 2022.*

[ECCV] **Y. Jiang***, Z. Fan*, P. Wang*, X. Gong, D. Xu, and Z. Wang. "Unified Implicit Neural Stylization", *European Conference on Computer Vision, 2022.*

[ECCV] **Y. Jiang**, B. Wronski, B. Mildenhall, J. T. Barron, Z. Wang, and T. Xue. "Fast and High-Quality Image Denoising via Malleable Convolutions", *European Conference on Computer Vision, 2022.*

[WACV] **Y. Jiang**, X. Gong, J. Wu, H. Shi, Z. Yan, and Z. Wang, "AutoX3D: Searching Ultra-Efficient Architecture for Video Understanding", *IEEE Winter Conference on Applications of Computer Vision, 2022.*

[NeurIPS] **Y. Jiang**, S. Chang, and Z. Wang, "TransGAN: Two Pure Transformers can Make One Strong GAN and That Can Scale Up", *Advances in Neural Information Processing Systems, 2021.*

[ICCV] **Y. Jiang**, H. Zhang, J. Zhang, Y. Wang, Z. Lin, K. Sunkavalli, S. Chen, S. Amirghodsi, S. Kong, and Z. Wang, "SSH: A Self-supervised Framework for Image Harmonization", *IEEE International Conference on Computer Vision, 2021.*

[TIP] **Y. Jiang**, X. Gong, D. Liu, Y. Cheng, C. Fang, X. Shen, J. Yang, P. Zhou, and Z. Wang, "EnlightenGAN: Deep Light Enhancement without Paired Supervision", *IEEE Transaction on Image Processing*

[CVPR] V. Goel, E. Peruzzo, **Y. Jiang**, D. Xu, N. Sebe, T. Darrell, Z. Wang, and H. Shi, "PAIR-Diffusion: Object-Level Image Editing with Structure-and-Appearance Paired Diffusion Models", *IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2024.*

[NeruIPS] Z. Wang, **Y. Jiang**, Y. Lu, Y. Shen, P. He, W. Chen, Z. Wang, M. Zhou, "In-Context Learning Unlocked for Diffusion Models", *Advances in Neural Information Processing Systems, 2023.* ***Spotlight***

[NeruIPS] Z. Wang, **Y. Jiang**, H. Zheng, P. Wang, P. He, Z. Wang, W. Chen, M. Zhou, "Patch Diffusion: Faster and More Data-Efficient Training of Diffusion Models", *Advances in Neural Information Processing Systems, 2023.*

[TMLR] Q. Wu, X. Chen, **Y. Jiang**, Z. Wang, "Chasing Better Deep Image Priors Between Over-and Under-parameterization", *Transactions on Machine Learning Research, 2023*

[1] Studied at Texas A&M University from Aug. 2019 to Aug. 2020; then transferred with my advisor to UT Austin

[CVPR] D. Xu, **Y. Jiang**, P. Wang, Z. Fan, Y. Wang, and Z. Wang, "NeuralLift-360: Lifting An In-the-wild 2D Photo to A 3D Object with 360° Views", *IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2023.* ***Highlight (2.5% of 9155 submissions)***

[ICLR] Z. Fan, P. Wang, **Y. Jiang**, X. Gong, D. Xu, and Z. Wang, "NeRF-SOS: Any-View Self-supervised Object Segmentation on Complex Real-World Scenes", *International Conference on Learning Representation, 2023*

[NeurIPS] D. Xu*, P. Wang*, **Y. Jiang**, Z. Fan, and Z. Wang, "Signal Processing for Implicit Neural Representations", *Advances in Neural Information Processing Systems, 2022.*

[MM] D. Xu, H. Poghosyan, S. Navasardyan, **Y. Jiang**, H. Shi, and Z. Wang, "ReCoRo: Region-Controllable Robust Light Enhancement by User-Specified Imprecise Masks", *ACM Multimedia, 2022*

[TIP] Z. Chen, **Y. Jiang**, D. Liu, and Z. Wang, "CERL: A Unified Optimization Framework for Light Enhancement with Realistic Noise", *IEEE Transaction on Image Processing*

[NeurIPS] B. Pan, R. Panda, **Y. Jiang**, Z. Wang, R. Feris, and A. Oliva, "IA-RED2: Interpretability Aware Redundancy Reduction for Vision Transformers", *Advances in Neural Information Processing Systems, 2021.*

[ICLR] T. Meng*, X. Chen*, **Y. Jiang**, and Z. Wang, "A Design Space Study for LISTA and Beyond", *International Conference on Learning Representations, 2021.*

[DAC] Y. Fu, Z. Yu, Y. Zhang, **Y. Jiang**, C. Li, Y. Liang, M. Jiang, Z. Wang, and Y. Lin, "InstantNet: Automated Generation and Deployment of Instantaneously Switchable Precision Networks", *Design Automation Conference, 2021.*

[ICCV] X. Gong, S. Chang, **Y. Jiang**, and Z. Wang. "AutoGAN: Neural Architecture Search for Generative Adversarial Networks", *IEEE International Conference on Computer Vision, 2019.*

Intern Experience

Apple, Seattle, USA — May. 2023 – Jan. 2024

Research Intern with AI/ML Argos Team, worked with Liangliang Cao, Hao Tang, and Rick Chang

- Working on the 3D generative model.

Adobe, San Jose, USA — May. 2022 – Dec. 2022

Research Intern with Marc Levoy's Team, worked with Zhihao Xia, Cecilia Zhang, Xiuming Zhang Jiawen Chen.

- Developed a high-quality depth estimator using multi-sensor assistance. The resultant paper is under review.

Google Research , Mountain View, USA — May. 2021 – May. 2022

Research Intern with GCam, worked with Tianfan Xue, Bart Wrongski, Ben Mildenhall, Peter Hedman, Jon Barron.

- Developed a fast denoising operator as well as an efficient backbone. The resultant paper was accepted by ECCV'2022
- Designed a high-fidelity neural radiance field that can render high-quality novel view images. The resultant paper was accepted by CVPR'2023

Adobe, San Jose, USA — May. 2020 – Nov. 2020

Research Intern with Appled Research Team (ART), worked with He Zhang and Jianming Zhang.

- Developed a self-supervised method for image harmonization. The resultant paper was accepted by ICCV'2021

Bytedance AI Lab, Beijing, China — Jan. 2019 – Aug. 2019

Research Intern with US CV Lab, worked with Xiaohui Shen, Ding Liu, Chen Fang, Jianchao Yang.

- Designed a jointly image denoising and low-light enhancement algorithm for a selfie camera app FaceU.

Media Highlight

- TransGAN was covered by Quanta Magazine (Mar. 2022) and was highlighted by Top AI influencers and high-profile YouTubers, as well as considered as the most influential new paper of the month (Feb. 2021).
- AutoGAN was covered by Synced AI Technology & Industry Review (Aug. 2019), and also featured on Towards Data Science (Sep. 2019) and Analytics Magazine (Aug. 2019), etc.

Community Services

- Reviewer for: CVPR, ICCV, ECCV, ICML, NeurIPS, ICLR, Siggraph, Siggraph Aisa, IROS, WACV, IJCAI, TPAMI, TIP, IJCV, NeuroComputing, RA-L, TCI, TCSVT

- Workshop Organizer for: ECCV RLQ-TOD Workshop 2020

Invited Talks

- Invited Talk at Adobe.
- Invited Talk at TikTok.
- Invited Talk at Meta GenAI.
- Invited Talk at Google.
- "Improving Diffusion Model for Novel View Synthesis: Faster Training and Better Convergence", at Apple Core Algorithm Org.
- "Extreme Novel-view Synthesis and 3D Content Creation using Deep Generative Prior", at Caltech & UCLA and Apple Video Computer Vision team.
- "Learning to Enhance Low-light Images without Paired Supervision" at [IEEE SPS Webinar], after my TIP work EnlightenGAN was highlighted as one of SPS's top-25 most downloaded articles on IEEE Xplore®, 2021-2022.
- "Fast and High-Quality Image Denoising via Malleable Convolutions" at Adobe, Marc Levoy's team.
- "Vision Transformer for Image Generation, Editing, and Processing" at Google Research, GCam.
- "TransGAN: Two Transformers Can Make One Strong GAN" at [cai-workshop], [SHI Lab @University of Oregon]

Awards

- **University of Texas Graduate Dean's Prestigious Fellowship** 2023
- **Apple Scholars in AI/ML Fellowship** 2023

Mentored Students

- Dejia Xu (M.S. student at UT-Austin) -> Now Ph.D. student at UT-Austin
- Zeyuan Chen (Undergrad at USTC) -> Now Ph.D. student at UCSD
- Qiming Wu (Undergrad at HUST) -> Now M.S. student at UCSB
- Qiucheng Wu (Ph.D. student at UCSB)