

Chen Yang

✉ ycyangchen@sjtu.edu.cn

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🎓 Scholar




Education

- Sep 2021 – Jun 2025(expected) 📖 **Ph.D. in Computer Science, Shanghai Jiao Tong University**
Ph.D. Advisor: *Wei Shen*
Laboratory: *Key Lab of Artificial Intelligence, Ministry of Education*
- Sep 2019 – Jun 2021 📖 **M.A. in Precision Instrument, Shanghai Jiao Tong University**
GPA: 3.76/4.0 | Top 10%
- Sep 2015 – Jun 2019 📖 **B.A. in Precision Instrument, Shanghai Jiao Tong University**
GPA: 3.91/4.3 | Top 30%



Selected Research Projects

- 2024 – Now 📖 **LiftImage3D: Lifting Any Single Image to 3D Gaussians with Video Generation Priors**
★ LiftImage3D is a universal framework that utilizes video generation priors to lift arbitrary 2D images into 3D Gaussians, which can produce fine-grained 3D generation on both objects and scenes obtained from the web.
★ Project lead by *Jiemin Fang* and *Hongkai Xiong*.
★ Submitted to *CVPR 2025*
- 2023 – 2024 📖 **GaussianObject: High-Quality 3D Object Reconstruction from Four Views with Gaussian Splatting**
★ Aiming to reconstruct finely detailed objects from very sparse inputs (as few as 4 images). Leveraging 3DGS as scene representation and refining a pre-trained diffusion model for strong priors.
★ Project lead by *Wei Shen* and *Jiemin Fang*.
★ Accepted by *ACM Transactions on Graphics (TOG), SIGGRAPH Asia 2024*.
- 2023 📖 **Segment Anything in 3D with NeRFs**
★ Leveraging SAM (Segment Anything) to segment NeRFs, provide a generic method to lift 2D foundation models to the 3D space.
★ Project lead by *Wei Shen*.
★ Accepted by *NeurIPS 2023*.
- 2022 – 2023 📖 **Efficient Deformable Tissue Reconstruction via Orthogonal Neural Plane**
★ Accelerated the optimization and inference on reconstructing deformable tissues with NeRFs, improving efficiency and quality across non-rigid deformations.
★ Project lead by *Wei Shen*.
★ Accepted by *MICCAI 2023, Young Scientist Award* and *IEEE Transactions on Medical Imaging (TMI)*.




Selected Research Projects (continued)

- 2021 – 2022  **NeRFVS: Neural Radiance Fields for Free View Synthesis via Geometry Scaffolds**
- ★ Designed a novel approach enabling neural radiance fields to perform free view synthesis at room scale and perform superior extrapolation in room scale.
 - ★ Project lead by *Weichao Qiu* and *Wei Shen*.
 - ★ Accepted by *CVPR 2023*.



Skills

- Programming Languages  Python, C, C++, Matlab
- Software & Tools  PyTorch, OpenCV, OpenGL, L^AT_EX, Jax, COMSOL





Academic Services

- Conference Reviewer  CVPR '23, '24; ICCV '23; NeurIPS '23, '24; ECCV '24; AAAI '25; MICCAI '23, '24
- Journal Reviewer  TOG; TMI; TCSVT; TOMM
- Teaching Assistant  Spr. 2019: **MI 321**: Course Design of Instrument Bus and Virtual Env.
- ★ Guided students in bus programming and virtual instrument development projects.
- Fa. 2020: **MI 318**: Measuring and Controlling Circuit
- ★ Facilitated lab sessions and assisted students with hands-on circuit experiences.
- Spr. 2021: **EE 334**: Industrial Measurement and Control Tech. and Sys.
- ★ Guided students through industrial measurement processes and control technologies.



Internship Experience

- 2023 – 2024  **3D Vision Intern, Huawei Cloud**, mentored by *Jiemin Fang* and *Qi Tian*
- ★ Designed and implemented GaussianObject project, which enables high-quality 3D object reconstruction from very sparse inputs (as few as 4 images);
 - ★ Paper accepted by SIGGRAPH Asia 2024 (TOG), work is open-sourced and widely recognized (800+ GitHub Stars).
- 2021 – 2022  **Machine Vision Intern, Huawei Noah's Ark Lab**, mentored by *Weichao Qiu*
- ★ Designed and implemented NeRFVS project, significantly improving the extrapolation capability of neural radiance fields;
 - ★ Proposed geometry scaffolds method, substantially enhancing scene reconstruction quality and extrapolation performance, paper accepted by CVPR 2023.

Awards and Achievements

- 2023  **MICCAI Young Scientist Award**, Awarded top 5 among 2250 submissions.
-  **Intel Scholarship**, Awarded top 5 among over 100 competitors.
- 2022  **Second Prize of National Post-Graduate Mathematical Contest in Modeling**, Awarded to top 14.5% of contestants.
- 2021  **National Scholarship**, Awarded to top 3% of students at Shanghai Jiao Tong University.

Awards and Achievements (continued)

- 2019 – 2021  **First Prize of Huawei Chinese University ICT Competition**, Awarded top 1 among 88 teams.
- 2019 – 2021  **First-class Academic Scholarship**, Awarded to top 30% of students at Shanghai Jiao Tong University.

Research Publications

- 1 Y. Yan, Z. Zhou, Z. Wang, **C. Yang**, J. Gao, and X. Yang, “Dialoguenerf: Towards realistic avatar face-to-face conversation video generation,” *Visual Intelligence*, vol. 2, no. 1, p. 24, 2024.
- 2 **C. Yang**, S. Li, J. Fang, *et al.*, “Gaussianobject: Just taking four images to get a high-quality 3d object with gaussian splatting,” *ACM Trans. on GRAPHICS*, 2024.
- 3 **C. Yang**, K. Wang, Y. Wang, Q. Dou, X. Yang, and W. Shen, “Efficient deformable tissue reconstruction via orthogonal neural plane,” *IEEE Transactions on Medical Imaging*, 2024.
- 4 **C. Yang**, K. Wang, Y. Wang, *et al.*, “Endogslam: Real-time dense reconstruction and tracking in endoscopic surgeries using gaussian splatting,” in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, Springer, 2024, pp. 219–229.
- 5 **C. Yang**, H. Zhao, H. Wang, and W. Shen, “Chase: 3d-consistent human avatars with sparse inputs via gaussian splatting and contrastive learning,” *arXiv preprint arXiv:2408.09663*, 2024.
- 6 **C. Yang**, H. Zhao, H. Wang, X. Zhao, and W. Shen, “Sg-gs: Photo-realistic animatable human avatars with semantically-guided gaussian splatting,” *arXiv preprint arXiv:2408.09665*, 2024.
- 7 J. Cen, J. Fang, **C. Yang**, *et al.*, “Segment any 3d gaussians,” *CoRR*, 2023.
- 8 J. Cen, Z. Zhou, J. Fang, *et al.*, “Segment anything in 3d with nerfs,” *Advances in Neural Information Processing Systems*, vol. 36, pp. 25 971–25 990, 2023.
- 9 P. Li, S. Wang, **C. Yang**, B. Liu, W. Qiu, and H. Wang, “Nerf-ms: Neural radiance fields with multi-sequence,” in *Proceedings of the IEEE/CVF International Conference on Computer Vision*, 2023, pp. 18 591–18 600.
- 10 **C. Yang**, P. Li, Z. Zhou, *et al.*, “Nerfvs: Neural radiance fields for free view synthesis via geometry scaffolds,” in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 2023, pp. 16 549–16 558.
- 11 **C. Yang**, K. Wang, Y. Wang, X. Yang, and W. Shen, “Neural lerplane representations for fast 4d reconstruction of deformable tissues,” in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, Springer Nature Switzerland Cham, 2023, pp. 46–56.
- 12 R. Liang, J. Zhang, H. Li, **C. Yang**, Y. Guan, and N. Vijaykumar, “Spidr: Sdf-based neural point fields for illumination and deformation,” *arXiv preprint arXiv:2210.08398*, 2022.
- 13 **C. Yang**, S.-Y. Yao, Z.-W. Zhou, B. Ji, G.-T. Zhai, and W. Shen, “Poxture: Human posture imitation using neural texture,” *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 32, no. 12, pp. 8537–8549, 2022.
- 14 Z. Zhou, R. Zhong, **C. Yang**, Y. Wang, X. Yang, and W. Shen, “A k-variate time series is worth k words: Evolution of the vanilla transformer architecture for long-term multivariate time series forecasting,” *arXiv preprint arXiv:2212.02789*, 2022.
- 15 B. Ji, **C. Yang**, Y. Shunyu, and Y. Pan, “Hpof: 3d human pose recovery from monocular video with optical flow,” in *Proceedings of the 2021 International Conference on Multimedia Retrieval*, 2021, pp. 144–154.