BOWEN ZHANG

bowen.zh@outlook.com · ForeverFancy · Homepage

EDUCATION

University of Science and Technology of China *September 2021 - June 2026 (Expected)*

- Ph.D. Candidate, School of Information Science and Technology
- USTC & MSRA Joint PhD program, advised by Dr. Baining Guo and Prof. Feng Zhao.

University of Science and Technology of China *September 2017 - June 2021*

- Bachelor's Degree, School of Gifted Young, major in Computer Science and Technology
- Member of the USTC Talented Program in Artificial Intelligence

EXPERIENCE

Meta FAIR *June 2025 - Present*

- Research intern at FAIR Perception Team, mentored by Dr. Hao Tang
- Focus on generalizable 3D generative modeling

Microsoft Research Asia *March 2022 - June 2025*

- Research intern at Visual Computing Group, mentored by Dr. Dong Chen and Dr. Baining Guo
- Focus on high-quality visual content creation, and 2D/3D/4D generative modeling

PUBLICATIONS

Gaussian Variation Field Diffusion for High-fidelity Video-to-4D Synthesis
Bowen Zhang, Sicheng Xu, Chuxin Wang, Jiaolong Yang, Feng Zhao, Dong Chen, Baining Guo
ICCV 2025.

Structured 3D Latents for Scalable and Versatile 3D Generation
Jianfeng Xiang, Zelong Lv, Sicheng Xu, Yu Deng, Ruicheng Wang, **Bowen Zhang**, Dong Chen, Xin Tong, Jiaolong Yang
CVPR 2025 Highlight, GitHub 10.3k stars.

GaussianCube: A Structured and Explicit Radiance Representation for 3D Generative Modeling
Bowen Zhang, Yiji Cheng, Jiaolong Yang, Chunyu Wang, Feng Zhao, Yansong Tang, Dong Chen, Baining Guo.
NeurIPS 2024.

RodinHD: High-Fidelity 3D Avatar Generation with Diffusion Models
Bowen Zhang*, Yiji Cheng*, Chunyu Wang, Ting Zhang, Jiaolong Yang, Yansong Tang, Feng Zhao, Dong Chen, Baining Guo.
ECCV 2024.

MetaPortrait: Identity-Preserving Talking Head Generation with Fast Personalized Adaptation
Bowen Zhang*, Chenyang Qi*, Pan Zhang, Bo Zhang, HsiangTao Wu, Dong Chen, Qifeng Chen, Yong Wang, Fang Wen.
CVPR 2023.

StyleSwin: Transformer-based GAN for High-resolution Image Generation
Bowen Zhang, Shuyang Gu, Bo Zhang, Jianmin Bao, Dong Chen, Fang Wen, Yong Wang, Baining Guo.
CVPR 2022.

PROJECTS

Gaussian Variation Field Diffusion

- Pioneer of native 4d diffusion model
- Introduce Direct 4DMesh-to-GS Variation Field VAE for efficient 4D asset encoding and compression for generative modeling
- Pave the way for generating high-quality animated 3D content

TRELLIS

- Develope SLAT representation enabling versatile 3D generation
- Build 2B-parameter rectified flow transformers trained on carefully-curated 500K 3D assets, achieving superior text-to-3D and image-to-3D generation quality.
- Pioneer flexible output format selection and local 3D editing capabilities, advancing high-quality 3D asset creation.

GaussianCube

- Structure Gaussian Splatting for generative modeling using optimal transport
- GaussianCube can seamlessly integrate with mainstream 3D diffusion methods
- Pave the way for high-quality 3D content generation

RodinHD

- Address the Catastrophic Forgetting problem in triplane fitting by a novel data scheduling strategy and a weight consolidation term
- Enhancing the guiding effect of condition portrait using a finer-grained hierarchical representation
- Optimize the noise schedule for 3D Diffusion

StyleSwin

- Explore key factors of transform-based GAN in high-resolution image generation
- Solve the blocking artifacts caused by the block-wised local attention
- Prove the promise of using transformers for high-resolution image generation

MetaPortrait

- Propose a carefully designed framework to significantly improve the identity-preserving capability when animating a one-shot in-the-wild portrait
- To the best of our knowledge, we first explore meta-learning to accelerate personalized training, thus obtaining ultra-high-quality results at affordable cost

AWARDS

- 2021 Outstanding Graduates of USTC
- 2020 ISC2020 SCC USTC-SwanGeese, First Place
- 2019 "8700, Special Class for Gifted Young" Innovation Scholarship

INTERESTS

My research is centered on the creation of visual content, encompassing both 2D image generation and high-quality 3D generative modeling. Currently, I am delving into the foundational representations and methodologies essential for generating and understanding the 3D and 4D worlds that surround us. My ultimate goal is to pioneer techniques that empower users to not only simulate but also interact with these virtual environments in a seamless and intuitive manner.

SERVICES

Conference Reviewer

- IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- International Conference on Computer Vision (ICCV)
- European Conference on Computer Vision (ECCV)
- AAAI Conference on Artificial Intelligence (AAAI)
- Annual Conference on Neural Information Processing Systems (NeurIPS)