Xinhao YAN (严新豪)

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Homepage   Google Scholar   Github

Birthday: July 15 1998
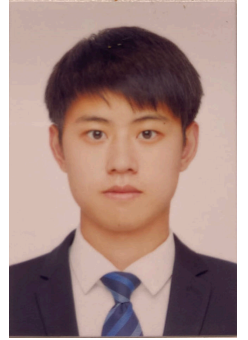
ABOUT ME

I am a phd student in shanghaitech university, jointly supervised by Prof. Shenghua GAO (The University of Hong Kong) and Prof. Lan Xu (Shanghaitech University). And I obtained my bachelor's degree (computer engineering and science) at shanghai university in 2019. I also worked as a computer vision algorithm engineer for about two years in Dgene from 2019 to 2021. And I have been an intern at Deemos and Tencent Hunyuan3d recently.

My **research interests** lie at the intersection of computer graphics and vision, mainly in 3D representation learning and generative models. Recently, I have been studying the 3d scene-level generative models that could benefit spatial intelligence and embodied AI.

I have a great passion for new things and ideas. Hope to work with great people and do something great.

WORK AND EDUCATION EXPERIENCE

JULY 2026	PhD of Computer Science/Electronic Information Technology at **ShanghaiTech**, SvipLab.
	Major: Computer Vision & Graphics & Deep Learning
	Course: Computer Vision II, Computer Graphics II, Reinforcement Learning
	Deep Learning，Algorithm Design, Robotics, Convex Optimization,
	Matrix Computations, Numeric Analysis
	TA: Computer Vision I Fall 2022
Now	Intern at **Tencent Hunyuan3d, 青云计划**.
	Study 3d Part/component generative models, and scene generation
DECM 2025	Intern at **Deemos**.
	Study 3d generative models, like Rodin and Cast.
JULY 2021	Computer vision algorithm engineer at **Dgene**, Shanghai, CHINA
JULY 2019	Bachelor Degree in Computer Engineering and Science
	Shanghai University, China

TECHNICAL SKILLS

Language:	C/C++, Python, Matlab, Pytorch, Blender, CUDA, OpenGL
System:	3D Reconstruction; Animatable human body (SMPL);
	Facial Expression Capture and Animation (FLAME); 3D generative models;

AWARDS

· Shanghaitech school scholarship from 2021 to 2025

COMMUNITY SERVICES

Conference reviewer: SIGGRAPH, ICCV, NeurIPS, ...

Academic Experience

Summer 2024 1 Year	Reseacher at MARS Lab/Deemos, *3D AIGC*	Advisor: Lan Xu Working on 3d generative models, including 3d object geometry generation, PBR material generation and 3d scene generation. More specifically, our gold is to build a large generative model to understand and reconstruct the real world, also called digital twins. The techniques are applied in commercial products and several papers are published.
Summer 2021 3 Years	Master student at Shanghaitech, *SVIP lab*	Advisor: Shenghua Gao Worked on digital human reconstruction and 3d representation learning. More specifically, attempt to reconstruct the human body and faces, given the multivew/monocular images/videos. I also study the neural renderings and different 3d representations, like Nerf, SDF and etc..
Summer 2019 2 Years	Algorithm Engineer at DGene, *Computer Vision*	DGene Worked on Face2Face and AR projects. I implement the faceswap system by deepfakes pipeline which can swap the two faces in two videos. And we succeed in swapping multiple faces and generate the face with more details, which makes the results more natural. For the AR project, given three depth cameras and one RGB camera, we can extracte the key points from the feet's point clouds and the virtual shoes can be rendered in the image captured by RGB camera.

Interests

· Basketball, Badminton, Cycling

· Drone, Radio

· Traveling, Photography

· Youtuber in science and technology

Publications

▶ **CAST: Component-Aligned 3D Scene Reconstruction from an RGB Image**
   TL; DR: We recover high-quality 3D scenes from a single RGB image
   (SIGGRAPH 2025 Best paper Award) [project page] [paper] [code]

▶ **PREF: Phasorial Embedding Fields for Compact Neural Representations**
   TL; DR:We present an efficient embedding space for neural representations.
   (Arxiv preprint) [project page] [paper] [code]

▶ **Dual-Space NeRF: Learning Animatable Avatars and Scene Lighting in Separate Spaces**
   TL; DR: We reconstruct the animatable human bodies and model the scene lighting.
   (3DV'2022) [project page] [paper] [code]