Qingcheng Zhao

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Education

ShanghaiTech University, Shanghai, China — Sep. 2021 – Jun. 2025(Expected)

Bachelor of Engineering in Computer Science.
Advisors: Prof. Jingyi Yu and Prof. Lan Xu
Overall GPA 3.69/4, ranked 31/178

University of California Berkeley, California, United States of America — Aug. 2023 – Dec. 2023

GLOBE Program in College of Engineering, University Of California Berkeley
Overall GPA 3.67/4

Research Interests

My research interests lie at the intersection of **3D Vision**, **Generative AI**. I am particularly interested in developing generative models for high-fidelity **3D scene reconstruction, rendering, and interaction**, with applications in virtual environments, creative content creation, and embodied AI systems. My work explores both the creation of **3D representations** and the integration of **human-centric priors** to enable context-aware and emotionally responsive interactions in 3D environments. I aim to advance the capabilities of generative AI by bridging the gap between perception and synthesis for real-world and immersive applications.

Publications

- Media2Face: Co-speech Facial Animation Generation With Multi-Modality Guidance — **SIGGRAPH 2024**
  Qingcheng Zhao*, Pengyu Long*, Qixuan Zhang, Dafei Qin, Han Liang, Longwen Zhang, Yingliang Zhang, Jingyi Yu, Lan Xu*
  (Project Page) (Paper)
- Single-view Panoptic Reconstruction with Instance-level Diffusion Priors — **Under Review**
  ***Qingcheng Zhao**, Xiang Zhang, Zeyuan Chen, Yuan Gao, Zhuowen Tu*

Research Experience

ShanghaiTech University — Mar. 2022 - Present

Research Assistant. Advised by Prof. Jingyi Yu and Prof. Lan Xu

Co-speech Facial Animation Generation With Multi-Modality Guidance — SIGGRAPH 2024

- Proposed a diffusion model in latent motion space for co-speech facial animation generation, accepting rich multi-modality guidance.
- Built an efficient variational auto-encoder mapping facial geometry and images to a highly generalized and decoupled expression latent space for expressions and identities.
- Achieved state-of-the-art performance on multiple datasets, outperforming existing methods in terms of both quality and diversity.

University of California San Diego — Jul. 2024 - Present

Visiting Scholar. Advised by Prof. Zhuowen Tu

Single View 3D Scene Reconstruction With Generative Prior — In Progress

- Proposed a diffusion model for panoptic 3D scene reconstruction from a single RGB image.
- Presented a novel generative approach using a tri-plane 2D unet diffusion model conditioned on a projected 3D prior to reconstruct 3D scenes with an efficient yet effective latent space.

Industry Experience

Nvidia Corporation Shanghai, China Feb. 2024 – Jun. 2024

Software Development Engineer (Internship)

- Built a LLM-powered agent for gameplay with human-like behaviors in most popular games, using a text-based game UI descriptor to interact with GPT-4.
- Enhanced the language model with a generalizable visual understanding module to improve the agent's performance in various games.
- Widely deployed in production environment, reduced the human labor and time cost significantly, enabling full automation of the game testing process with minimal configuration.

Deemos Technologies Inc. Shanghai, China Nov. 2022 – Feb. 2024

Intern Researcher

- Built a real-time 3D interactive avatar system utilizing audio-driven facial expression animation technologies at Global AI developer Conference 2023.
- Built a web application for ChatAvatar project based on DreamFace, which can generate 3D avatars from a single image or text prompt.

Activities

GeekPie Association Sep. 2021 - Sep. 2024

President of GeekPie Association

- Led ShanghaiTech's largest developer community, fostering innovation among 200+ members through technical workshops, competitions, and open-source initiatives. Developed CourseBench, a highly regarded web application that allow students to comment and discuss about courses.
- Organized impactful activities such as SI100+ Python and AI Guide, HPC Competition Training, and the GeekPie Puzzle Challenge; Collaborated with industry leaders (e.g., AMD, Jump Trading) to host seminars and promote cutting-edge technologies like AI and quantitative trading.

CS100: Introduction to Programming 2023, 2024

Senior Teaching Assistant

- Give office hours and recitation classes; Assist with homework assignments and corrections.
- Won the SIST Outstanding Teaching Assistant Award.

Honors and Awards

ShanghaiTech International Exchange Program First-Class Scholarship, ShanghaiTech University 2024
Outstanding Teaching Assistant, SIST, ShanghaiTech University 2023
Merit Student*(top 2%)*, ShanghaiTech University 2022
Outstanding Officer, ShanghaiTech Student Union 2022
Bronze Medal, Award on The 2021 China Collegiate Programming Contest, Harbin Site 2021
One-hundred Fourth Place, Award on The 2021 ICPC Asia-East Continent Final Contest 2021

Patents

- **Image processing method and device, electronic equipment and storage medium CN116017167A**
  Inventors: *Kuang Cong, Hongyang Lin,* ***Qingcheng Zhao****, Lan Xu, Yichi Zhang, Hong Wu*
  Developed a novel image processing method leveraging layered lighting systems to enhance scene realism in virtual environments. This method integrates real and virtual lighting systems for improved fidelity and efficient rendering.

Skills

- Programming Languages: Python > C/C++ >= Javascript == Typescript > Ruby > MATLAB
- Tools: PyTorch, Blender, OpenCV, Git, LaTeX, Docker, Vue, React, FastAPI, Node.js, Rancher, Kubernetes,