Daheng Yin

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Education

Simon Fraser Univ.
Ph.D. in Computing Science
Advisor: Prof. Jiangchuan Liu
2023.08 -- Present

Southeast Univ.
M.Eng. in Computer Science
Advisor: Prof. Fang Dong
2020.08 -- 2023.07

Jiangnan Univ.
B.Eng. in IoT Engineering
Advisor: Prof. Ya Guo
2016.08 -- 2020.07
GPA: 3.63, Rank 9/141

Research Areas

- Volumetric Video Streaming
- Dynamic 3D Reconstruction
- Embodied AI Systems

Links

Homepage:
yindaheng98.top
Github: **@yindaheng98**

Research Profile

- I design practical systems for photorealistic volumetric video reconstruction and transmission, targeting downstream applications in 3D scene understanding, embodied intelligence, and immersive volumetric telepresence.

Selected Publications

TrackerSplat: Exploiting Point Tracking for Fast and Robust Dynamic 3D Gaussians Reconstruction SIGGRAPH Asia, 2025

- **Daheng Yin**, Isaac Ding, Yili Jin, Jianxin Shi, Jiangchuan Liu
- Core idea: use multi-view point tracking to move Gaussians before optimization, making dynamic 3D reconstruction robust under large inter-frame motion.

FSVFG: Towards Immersive Full-Scene Volumetric Video Streaming with Adaptive Feature Grid ACM Multimedia, 2024

- **Daheng Yin**, Jianxin Shi, Miao Zhang, Zhaowu Huang, Jiangchuan Liu, Fang Dong
- Core idea: represent full-scene volumetric video with feature grids and stream only the most useful features/residuals adaptively to match bandwidth.

WAEVSR: Collaborative Live Video Super-Resolution in Wide-Area MEC Environment IEEE/ACM IWQoS, 2023

- **Daheng Yin**, Fang Dong, Baijun Chen, Dian Shen, Ruiting Zhou, Xiaolin Guo, Zhaowu Huang
- Core idea: jointly optimize distributed edge inference and low-latency transmission to deliver real-time super-resolution video under resource constraints.

Research & Engineering Experience

Fast and Robust Dynamic 3D Gaussian Reconstruction 2024 -- Present

- Developed point-tracking guided Gaussian motion compensation to handle large inter-frame displacement in dynamic scenes.
- Built a multi-view, multi-GPU pipeline for motion-accurate reconstruction with improved throughput and temporal consistency.
- Improved reconstruction robustness for downstream tasks that require reliable motion cues, including embodied scene understanding and simulation-oriented pipelines.

Adaptive Full-Scene Volumetric Video Streaming 2023 -- Present

- Built adaptive streaming pipelines for dynamic full-scene 3D video using feature-grid and Gaussian-based representations.
- Designed bandwidth adaptation mechanisms (LoD, residual scheduling, and ABR) to optimize quality-latency trade-offs in real networks.

Collaborative Live Video Super-Resolution 2021 -- 2023

- Distributed edge inference scheduling and low-latency multimedia transmission.
- This work established my systems foundation for later research on volumetric video transmission.

Contests & Honors

2025	SIGGRAPH Asia Volumetric Video Workshop	Compression Track 3rd
2022	TensorRT Hackathon (NVIDIA & TIANCHI)	Winner Prize
2021	TensorRT Hackathon (NVIDIA & TIANCHI)	Rank 4/48
2020	Outstanding Graduate, Jiangnan University	
2018	National College Mathematical Contest in Modeling	2nd Prize (National)
2017	China National Scholarship (2016-2017)	
2017	9th National College Mathematical Contest	2nd Prize (Provincial)
2017	14th Jiangsu College Mathematical Contest	1st Prize