Jiarui Chen

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Education

Harbin Institute of Technology (Shenzhen), Guangdong, China 2022 – 2026

Degree	B.S. in Computer Science and Technology
Core GPA	3.9 / 4.0, 92.5 / 100
Ranking(comprehensive)	7 / 316, top 2%
English	CET-4: 593, CET-6: 559

Research and Project Experience

3D Reconstruction and Real-time Novel View Synthesis Dec. 2024 – Present

Visiting Student, IGL-HKUST

- **Generalizable Dynamic Streamable Video 3DGS**: Investigated temporal instability issues (flickering/jittering) in the GPS-Gaussian framework for dynamic human synthesis. Explored the integration of temporal priors (e.g., optical flow, memory modules) to improve consistency in per-frame predictions.
- **Memory-Efficient 3DGS**: Pioneered the first compression framework targeting runtime memory (over storage) for 3DGS, reducing GPU memory by 50% vs. SOTA while maintaining comparable rendering quality. Introduced spherical Gaussians to replace SH for efficient color modeling and formulated a unified optimization problem to jointly prune spherical lobes and Gaussians under memory constraints.

Parameter-Efficient Fine-tuning Apr. 2024 – Nov. 2024

Research Intern, ICES-HITSZ

- **Parameter-Efficient Fine-tuning**: Introduced weight rearrangement and partial reparameterization, unifying two PEFT paradigms to enhance fine-tuning efficacy with reduced memory.

LLM-based Multimodal Risk Content Recognition Platform May 2024 – Nov. 2024

Project Leader, HITSZ

- Led the project to win the **National Second Prize** in the 19th Challenge Cup Special Competition.
- Core Technology: Perception-reasoning decoupled multimodal risk content detection framework.
- Responsible for: LLM reasoning enhancement (RAG / CoT), inference optimization, and LLM-based data synthesis and selection.

Publications and Open-Source Projects

- **Chen J**, et al. "MEGS^2: Memory-Efficient Gaussian Splatting via Spherical Gaussians and Unified Pruning". arXiv 2025, **ICLR 2026 (submitted)**. [paper]
- Chen T, **Chen J**, et al. "Sensitivity-Aware Efficient Fine-Tuning via Compact Dynamic-Rank Adaptation". **CVPR 2025**. [paper]
- LLM-based Multimodal Risk Content Recognition Platform [github]
- Fine-Grained Risk Classification for Chinese SMS and Dialogues (FGRC-SCD) [huggingface]
- Audio ChatTTS & GPT-SoVITS Dataset (ACG) [huggingface]

Honors and Awards

National First Prize, China Undergraduate Mathematical Contest in Modeling 2023
National Second Prize, 19th Challenge Cup Special Competition 2024
Provincial Second Prize, 15th Blue Bridge Cup C++ Group A 2023
First-Class Academic Scholarship, HITSZ (Top 5%) 2023-2024
Tat-Seng Chua Scholarship (Top 0.5%) 2025