

CHUCHENG XIANG

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📖 Computational Mathematics 📍 Fujian



ABOUT ME

Researching 3D understanding and generation, LLM post-training, and agent systems. My mathematics background drives me to think from first principles.

EDUCATION

M.S. in Computational Mathematics, USTC

Sep. 2024 - Jun. 2027 (Expected)

Lab: GCL Advisor: Prof. Ligang Liu

B.S. in Mathematics, USTC

Sep. 2020 - Jun. 2024

GPA: 3.78 / 4.3 (Major: 3.9 / 4.3)

PUBLICATIONS

GALA: Geometry-Aware Language Model for Controllable Object Arrangement SIGGRAPH Asia 2026

Chucheng Xiang, Runze Wang, Zhi Deng, et al., Ligang Liu.

Fine-tuned Qwen via multimodal SFT into a geometry-aware LLM predicting object 6D poses for controllable placement, with a plan-place-verify closed-loop agent pipeline for instruction-driven scene generation and editing.

Co-Layout: LLM-driven Co-optimization for Interior Layout

AAAI 2026

Chucheng Xiang, Ruchao Bao, Biyin Feng, et al., Ligang Liu.

Proposed a spatial co-optimization framework combining multi-agent collaboration with integer programming, resolving layout conflicts between room and furniture in two-stage workflows.

PART: Learning 3D Part Assembly and Retrieval with Transformers

SIGGRAPH Asia 2026

Ruchao Bao, Wenzheng Wu, Chucheng Xiang, et al., Ziqi Wang.

Formulated part retrieval and assembly as set prediction, with a Transformer regressing 6-DoF part poses.

NaLA: A 3D Native LLM Layout Agent for High-quality 3D Scene Generation

ECCV 2026

Cheng Wan, Yongsen Mao, Wenzheng Wu, Yuxuan Xie, Chucheng Xiang, et al., Yuan Liu.

Fine-tuned Qwen into a 3D-native LLM via SFT to directly predict asset poses in a single inference step.

Scene Layout via Conceptual Design

Computers & Graphics, 2026

Wenzheng Wu, Chucheng Xiang, Zhi Lin, et al., Ligang Liu.

Constructed a multi-agent framework simulating hierarchical spatial design workflows with an LLM-in-the-loop correction mechanism for text-to-scene generation.

EXPERIENCE

Tencent IEG, Shenzhen, China

Sep. 2025 - Present

Algorithm Research Tech Future Excellence Award

As project lead, drove the design of a geometry-aware controllable placement algorithm for game scene generation and built a high-quality scene dataset; the resulting work was accepted to SIGGRAPH Asia 2026.

Tencent IEG, Shenzhen, China

Jul. 2024 - Sep. 2024

Algorithm Research Spark Program

Researched multi-agent algorithms for modular building generation, exploring agent orchestration.

HONORS & AWARDS

- First Place, CAD Wireframe Neural Compression Challenge, CSIAM GDC 2026, sponsored by MathMagic
- National Scholarship (2025)
- Chiang Chen Scholarship (2025)
- First-Class Academic Scholarship for Graduate Students (2024-2025)
- Outstanding Graduate of USTC (2024)
- Outstanding Student Scholarship of USTC (2021-2023)
- Chinese Mathematics Competitions (Mathematics Major, Group A), Provincial First Prize (2022)

SKILLS

• Programming: Python, C++, MATLAB

Tools: Blender, Cursor

• Frameworks: PyTorch, Transformers, LLaMA-Factory, DeepSpeed, vLLM

Languages: CET-6