

Curriculum Vitae of Zhenyu Sun

+86-138-6767-2318 | ftsunzhenyu@mail.scut.edu.cn | <https://zhenyusun-walker.github.io>

South China University of Technology (ZIP: 511442), Guangzhou, China

OBJECTIVE

Seeking 26-fall Ph.D position in Computer Graphics to leverage my expertise in 3D Reconstruction related work. Aiming to contribute to innovative projects at the intersection of 3D Generation and practical problem-solving in fields such as Autonomous Driving.

EXPERIENCE

- **South China University of Technology** [🌐] 10/2023 - present
Undergraduate Intern
 - Join in team of Prof. Qi Liu, and participate in proposing *Toy-GS: Assembling Local Gaussians for Precisely Rendering Large-Scale Free Camera Trajectories*, which aims to achieve accurate rendering of large-scale free camera trajectories in 3D reconstruction work. Our work has been accepted by AAAI 2025.
- **Westlake University** [🌐] 08/2024 - 11/2024
Visiting Student
 - Visit Prof. Huan Wang, and join the *Encode Lab*, aiming at tasks on text-to-3D scene generation. Our work has been submitted to CVPR 2025.

EDUCATION

- **South China University of Technology** 09/2022 - presenty
Artificial Intelligence | School of Future Technology, Undergraduate
Guangzhou, China
 - **GPA: 3.97/4.00, Grade: 92.61/100.00**

PROJECTS

- **MetaSCUT: Large-Scale Scene Simulation based on 3D-GS and Universal Physics Engine** 12/2024 - 01/2025
Topics: 3D-Reconstruction, Simulation
 - Developed the MetaSCUT framework for large-scale scene simulation based on 3D Gaussian Splatting and Universal Physics Engine.
 - Implemented high-quality digital twin reconstruction of campus scenes using aerial data and Gaussian Splatting techniques.
 - Integrated Blender for dynamic interaction simulation, including vehicle physics and robotic arm control.
 - Achieved efficient mesh reconstruction and rendering with the SuGaR module, outperforming traditional methods in terms of detail and accuracy.
 - Anticipate leveraging the ongoing development and open-source nature of the Genesis physics engine to further enhance the simulation accuracy and complexity of our virtual campus.

PATENTS AND PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=PATENT, S=IN SUBMISSION, T=THESIS

- [C.1] *Toy-GS: Assembling Local Gaussians for Precisely Rendering Large-Scale Free Camera Trajectories* (AAAI 2025).
Xiaohan Zhang, **Zhenyu Sun**, Yukui Qiu, Junyan Su, Qi Liu*.
- [J.1] *Aerial-NeRF: Adaptive Spatial Partitioning and Sampling for Large-Scale Aerial Rendering* (ArXiv 2024).
Xiaohan Zhang, Yukui Qiu, **Zhenyu Sun**, Qi Liu*

HONORS AND AWARDS

- **The First Prize Scholarship** 10/2024
South China University of Technology
 - * The First Prize Scholarship is awarded to students who demonstrate exceptional academic performance and significant contributions to university activities.
 - * Winning the First-Class Scholarship is a prestigious recognition, widely regarded by the university as an indicator of outstanding academic capability and leadership potential.
- **National Scholarship** 09/2024
Ministry of Education of the People's Republic of China
 - * The National Scholarship is a highly esteemed award granted by the Ministry of Education of the People's Republic of China to recognize outstanding academic achievements and exceptional contributions among university students.

- * Winning the National Scholarship is a remarkable honor that is widely acknowledged by universities and employers as a key indicator of academic excellence and personal potential in selecting top-tier talent.

National Second Prize of MathorCup Mathematical Application Challenge

04/2024

China Society of Optimization, Overall Planning, and Economic Mathematics

- * The 2024 MathorCup Mathematics Application Challenge is a prestigious national competition organized by the China Society for Optimization, Overall Planning, and Economic Mathematics.
- * Winning the MathorCup is a significant achievement that is recognized by many universities and employers as an important criterion for evaluating and selecting talent.

Honorable Mention of MCM/ICM

02/2024

Consortium for Mathematics and Its Applications (COMAP)

- * The Mathematical Contest in Modeling (MCM) and the Interdisciplinary Contest in Modeling (ICM) are prestigious international competitions organized by the Consortium for Mathematics and Its Applications (COMAP).
- * Winning or even participating in the MCM/ICM is highly regarded by academic institutions and employers. Success in these competitions demonstrates a student's ability to work collaboratively, think critically, and apply mathematical concepts to practical problems

First Place in the Huawei ICT Competition, Guangdong Province

11/2023

Huawei Technologies Co., Ltd

- * The Huawei ICT Competition is an annual international contest designed for university and college students worldwide. It aims to provide a platform for students to engage in healthy competition and exchange ideas, thereby enhancing their ICT knowledge and practical skills.
- * The competition plays a crucial role in narrowing the digital talent divide by fostering global engagement and competition among students.

First Prize in the Guangdong Province for the National Undergraduate Mathematics Competition

11/2023

Chinese Mathematical Society

- * The 2024 National Undergraduate Mathematics Competition is a highly esteemed event organized by the Chinese Mathematical Society. It aims to foster mathematical talent among undergraduate students across China.
- * Achieving the First Prize in this competition is a significant accolade that is widely recognized by academic institutions and employers. It highlights the recipient's dedication, analytical thinking, and proficiency in mathematics.

COLLABORATORS

1. Qi Liu

Professor and Ph.D. Adviser, School of Future Technology, South China University of Technology
Research Fellow, Electrical and Computer Engineering, National University of Singapore, Singapore
Email: drliuqi@scut.edu.cn
Website: <https://drliuqi.github.io>
Relationship: Research Mentor

2. Huan Wang

Assistant Professor, school of Engineering, Westlake University
Email: wanghuan@westlake.edu.cn
Website: <https://huanwang.tech>
Relationship: Research Mentor

3. Xiaohan Zhang

Ph.D of Prof. Qi Liu, Electrical and Computer Engineering, South China University of Technology
Email: ftzhangxiaohan@mail.scut.edu.cn
Relationship: Collaborator