

Curriculum Vitae of Zhenyu Sun

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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 - present
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 [Surface-Aligned Gaussian Splatting](#), 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

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Research Fellow, Electrical and Computer Engineering, National University of Singapore, Singapore
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Website: <https://drliuqi.github.io>
Relationship: Research Mentor

2. Huan Wang

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Relationship: Research Mentor

3. Xiaohan Zhang

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Relationship: Collaborator