

RUNSONG ZHU

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Education

The Chinese University of Hong Kong

Aug 2022 - Jun 2026 (*expected*)

Ph.D. candidate in the Faculty of Computer Science & Engineering. Supervisor: Prof. Chi-Wing Fu, Prof. Pheng-Ann Heng.

Research Direction: 3D Reconstruction/Understanding.

Wuhan University

Sept 2019 - Jun 2022

M. Eng. in Surveying and Mapping Engineering. Supervisor: Prof. Zhen Dong, Prof. Bisheng Yang.

Research Direction: Point Cloud Analysis.

Central South University

Sept 2015 - Jun 2019

B. Sc. in Geographic Information Science (GIS).

Grade: 87/100 (rank 4 out of 47)

First-Author Publications

Research topics: I am interested in computer vision and computer graphics. My research began with point cloud analysis (e.g., normal estimation, surface reconstruction). I then explored projects on 3D semantic reconstruction from multi-view image inputs. More recently, I have been working on feedforward semantic reconstruction and a robotics-related project.

3D Semantic Reconstruction

1. (**Under-review**) 3D Gaussian-based open-vocabulary segmentation

Runsong Zhu, Ka-Hei Hui, Zhengzhe Liu, Qianyi Wu, Shi Qiu, Pheng-Ann Heng, Chi-Wing Fu.

2. (**CVPR2025**) Rethinking End-to-End 2D to 3D Scene Segmentation in Gaussian Splatting

Runsong Zhu, Shi Qiu, Zhengzhe Liu, Ka-Hei Hui, Qianyi Wu, Pheng-Ann Heng, Chi-Wing Fu.

3. (**ECCV2024**) PCF-Lift: Panoptic Lifting by Probabilistic Contrastive Fusion

Runsong Zhu, Shi Qiu, Qianyi Wu, Ka-Hei Hui, Pheng-Ann Heng, Chi-Wing Fu.

Point Cloud Analysis

1. (**WACV2024**) Semi-Signed Prioritized Neural Fitting for Point Cloud Surface Reconstruction.

Runsong Zhu, Kang Di, Ka-Hei Hui, Yue Qian, Shi Qiu, Zhen Dong, Linchao Bao, Pheng-Ann Heng, Chi-Wing Fu.

2. (**ICCV2021 oral**) AdaFit: Rethinking Learning-based Normal Estimation on Point Clouds

Runsong Zhu, Liu Yuan, Zhen Dong, Tengping Jiang, Yuan Wang, Wenping Wang, Bisheng Yang.

On-going Projects

Feedforward 3D semantic reconstruction

- Role: Project leader.

- Exploring an effective and efficient solution for feedforward 3D semantic reconstruction from multi-view images input.

3D reconstruction for robotics

- Role: Assisting with the HKCLR robotic team.
- Exploring a tailored depth prediction approach for real-world robotic manipulation.

Internships

Tencent AI-Lab

Jun 2021 - May 2022

Research intern: Working on 3D model reconstruction from images; Supervised by Dr. *Di Kang* and Dr. *Linchao Bao*

DiDi

Jun 2020 - Sept 2020

Engineer intern: Analyzing the traffic data for traffic congestion prediction.

Baidu Map

Jun 2018 - Oct 2018

Engineer intern: Working on the development of android test platform for “BaiduMap” APP.

Awards

- 2022 CUHK Postgraduate Scholarship
- 2020 Lidar Congress - Point Cloud Segmentation Track (First Prize)
- 2019 Unique hackday (Best Technology Award)
- 2019 National GIS Development Competition (First Prize)
- 2018 Mathematical Contest In Modeling (Meritorious Winner)

Community Services

Reviewer:

- CVPR25, ICCV25, ICLR25&26, NeurIPS25, ACM MM24, etc.