

# YILIN LIU

Ph.D. student ◇ School of Computing Science, Simon Fraser University  
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## RESEARCH INTERESTS

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I am interested in Computer Graphics, Computer Vision, and Robotics, especially neural structural reconstruction and generation for CAD objects from different data sources (e.g., images, point clouds, distance fields).

## PUBLICATIONS

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- Split-and-Fit: Learning B-Reps via Structure-Aware Voronoi Partitioning.  
**Yilin Liu**, Jiale Chen, Shanshan Pan, Daniel Cohen-Or, Hao Zhang, and Hui Huang.  
ACM Trans. Graph (Proceedings of SIGGRAPH). 2024.
- Learning Reconstructability for Drone Aerial Path Planning.  
**Yilin Liu**, Liqiang Lin, Yue Hu, Ke Xie, Chi-Wing Fu, Hao Zhang, and Hui Huang.  
ACM Trans. Graph (Proceedings of SIGGRAPH ASIA). 2022.
- Aerial Path Planning for Online Real-time Exploration and Offline High-quality Reconstruction of Large-scale Urban Scenes.  
**Yilin Liu**, Ruiqi Cui, Ke Xie, Minglun Gong, and Hui Huang.  
ACM Trans. Graph (Proceedings of SIGGRAPH ASIA). 2021.
- Capturing, Reconstructing, and Simulating: the UrbanScene3D Dataset.  
Liqiang Lin, **Yilin Liu**, Yue Hu, Xingguang Yan, Ke Xie, and Hui Huang  
European Conference on Computer Vision. 2022.
- UrbanScene3D: A Large Scale Urban Scene Dataset and Simulator.  
**Yilin Liu**, Fuyou Xue, and Hui Huang.  
Arxiv. 2021.
- VGF-Net: Visual-Geometric Fusion Learning for Simultaneous Drone Navigation and Height Mapping.  
**Yilin Liu**, Ke Xie, and Hui Huang. 2021.  
Graph. Model. 2021.
- Offsite Aerial Path Planning for Efficient Urban Scene Reconstruction.  
Xiaohui Zhou, Ke Xie, Kai Huang, **Yilin Liu**, Yang Zhou, Minglun Gong, and Hui Huang.  
ACM Trans. Graph (Proceedings of SIGGRAPH ASIA). 2020.

## EDUCATION

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<b>Simon Fraser University</b> Ph.D. in Computer Science <b>Thesis supervisor:</b> Prof. Hao (Richard) Zhang	<i>2022 - Present</i>
<b>Shenzhen University</b> M.S. in Computer Science <b>Thesis title:</b> “Real-time Modeling and Image Collection for Urban Scene Reconstruction” <b>Thesis supervisor:</b> Prof. Hui Huang	<i>2019 - 2022</i>
<b>Sichuan University</b> B.E. in Software Engineering <b>Thesis title:</b> “Offline 3D Urban Reconstruction based on Aerial Photography” <b>Thesis supervisor:</b> Prof. Hui Huang and Dr. Wanzhong Song	<i>2015 - 2019</i>

## HONORS AND AWARDS

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- **Ph.D. Research Scholarship, SFU** *2023*

- Graduate Dean's Entrance Scholarship, SFU 2022
- Graphic Open Source Dataset Award, CCF 2021
- National Scholarship, top 2% 2020
- The First Prize Scholarship, Shenzhen University 2020
- Outstanding Undergraduate Student, Sichuan University 2019
- Outstanding Student Volunteer, Junior Achievement China 2017
- The First Individual Scholarship, Sichuan University 2016, 2017

## PRESENTATION

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**Scene Synthesis and Navigation** Dec. 2021

Conference Talk, SIGGRAPH Asia 2021

Aerial path planning for online real-time exploration and offline high-quality reconstruction of large-scale urban scenes

**Visual Localization and Navigation** Apr. 2021

Conference Talk, CVM 2021

VGF-Net: Visual-Geometric Fusion Learning for Simultaneous Drone Navigation and Height Mapping

**Scene Reconstruction and Navigation in Complex Urban Scenes** Jun. 2021

Invited Talk, for Dr. Min Lu's course "Machine Learning"

School of Architecture & Urban Planning, Shenzhen University

## EXPERIENCE

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**(Upcoming) Summer Internship in Autodesk** Jun. 2024 - Aug. 2024

Research Intern

London, UK

Supervised by Dr. Hooman Shayani

**Summer Workshop in National University of Singapore** Jul. 2018 - Aug. 2018

Visiting Student

Involved in the topics in Artificial Intelligence and Multimedia Computing

Supervised by Prof. Kelvin Sung

**ThoughtWorks** Nov. 2017 - Jan. 2018

Teaching Assistant

Helped people without code background to get started with software development

**Junior Achievement** Mar. 2017 - May 2018

Volunteer Teacher

Part time

Helped primary school students to build their professional and financial cognition