

YUZHOU ZHOU

M.S. Candidate, Wuhan University; Website: yuzhoulidar.com

Email: yuzhou3d@gmail.com; Tel: (+86)188-3272-2876

OVERVIEW

Third-year M.S. Student in Photogrammetry and Remote Sensing, Graduating in June, 2022

State Key Laboratory of Information Engineering ([LIESMARS](#)), Wuhan University, China

Research experiences: point cloud processing, 3D deep learning, transportation scene understanding

Currently working on: 3D instance segmentation, image and point cloud fusion, weakly-supervised learning

EDUCATION

M.S. in Photogrammetry and Remote Sensing

Sep. 2019 - Jun.2022

State Key Lab of Information Engineering in SMARS(LIESMARS), Wuhan University

Wuhan, China

Advised by Prof. [Bisheng Yang](#) and Dr. [Zhen Dong](#)

Awarded *National Scholarship for Postgraduates* (Top 2%, Ranking 1/300), GPA: 89.0/100.0

B.E. in Geodesy and Geomatics Engineering

Sep. 2015 - Jun.2019

School of Geodesy and Geomatics, Wuhan University

Wuhan, China

GPA: 3.88/4.00 (Ranking 2/302)

Awarded *Outstanding Student Scholarship* (Top 1%), Outstanding Graduate of Wuhan University (Top 5%)

PUBLICATION

Highway Alignments Extraction and 3D Modeling from Airborne Laser Scanning Point Clouds

- Yuzhou Zhou, Ronggang Huang, Tengping Jiang, Zhen Dong, Bisheng Yang
- *International Journal of Applied Earth Observation and Geoinformation* (IF: 5.933)
- Key words: Point cloud segmentation, highway feature extraction, multi-constraint energy function.

Street-view Imagery Guided Street Furniture Inventory from Mobile Laser Scanning Point Clouds

[Under Review]

- Yuzhou Zhou, Xu Han, Bo Yang, Zhen Dong, Bisheng Yang
- *ISPRS Journal of Photogrammetry and Remote Sensing* (IF: 8.979)
- Key words: Instance segmentation, image-point fusion, HD map, 3D transportation analysis.

Evaluation of Tunnel Excavation Combining Terrestrial Laser Scanning Point Clouds and Design Models

- Yuzhou Zhou, Zhen Dong, Peiling Tong, Bisheng Yang
- *The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences* (EI)
- Key words: Tunnel 3D modeling, model comparison, feature point extraction and completion.

Bilevel Convolutional Neural Networks for 3D Semantic Segmentation Using Large-scale LiDAR Point Clouds in Complex Environments

- Tengping Jiang, Bisheng Yang, Yuzhou Zhou, Runsong Zhu, Zongtian Hu, Zhen Dong
- *Geomatics and Information Science of Wuhan University* (EI)
- Key words: Point cloud semantic segmentation, bilevel neural network.

Automated Semantics and Topology Representation of Residential-building Space using Floor-plan Raster Maps [Under Review]

- Bisheng Yang, Tengping Jiang, Weitong Wu, Yuzhou Zhou, Lei Dai
- *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* (IF: 3.784)
- Key words: Indoor mapping, point cloud based 3D modeling.

CONTEST

ChinaLiDAR 2020 *First Prize* (Ranking 1st)

- Point Cloud Semantic Segmentation Contest of the China LiDAR Conference 2020 (*ChinaLiDAR 2020*)

INTERNSHIP

Large-scale Outdoor Point Cloud Instance Segmentation Annotation

Research Assistant in Wuhan Geomatics Institute

Mar. 2021 - Apr. 2021

- Lead the point cloud segmentation annotation of WuhanIns3D (3.2km streets) and Railway3D (10.0km railway).

LiDAR-Based HD Map Creation and Parsing for V2X Applications

Jun. 2020 - Sep. 2020

Algorithm Engineer for Localization and HD Mapping in [Hesai Technology](#)

Shanghai, China

- Automated OpenDRIVE HD map creation, roadside LiDAR object detection, V2X applications.

Point Cloud Processing Software Development

Jul. 2019 - Aug. 2019

Software Engineer in Sichuan Department of Transportation (DOT)

Chengdu, China

- Highway point cloud semantic segmentation software development based on CloudCompare.

GIS Software Development

Jul. 2018 - Sep. 2018

Software Engineer in GIS Group, Department of System Architecture, JD(Jingdong) Logistics

Beijing, China

- Geo-coding and Geo-fencing API development.

PRESENTATION

[2021.12] Invited talk *Combining Images and Point Clouds for Street Furniture Instance Segmentation* in *Forum on Intelligent Connected Future and Intelligent Transportation*, [SJTU](#).

[2021.11] Invited talk *Point Cloud Processing in Transportation Infrastructure Surveying* in *Geo-Science Cafe*, Wuhan University.

[2021.07] Video presentation *Evaluation of Tunnel Excavation Combining Terrestrial Laser Scanning Point Clouds and Design Models* in Nice, France.

[2020.12] Poster presentation *Highway Alignments Extraction and 3D Modeling from Airborne Laser Scanning Point Clouds* in *ChinaLiDAR 2020* in Beijing.

PROGRAMMING AND ENGLISH SKILLS

- Experience in C/C++(with PCL, OpenCV, Ceres-Solver, CGAL, etc.), Python(with TensorFlow, PyTorch, etc.), MATLAB, CloudCompare Plugins Development.
- TOEFL (Sep. 2021): 105 (S24, R30, L27, W24).