

# YUZHOU ZHOU

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## OVERVIEW

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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 interests: point cloud processing, 3D deep learning, transportation scene understanding  
Currently working on: 3D instance segmentation, image and point cloud fusion, weakly-supervised learning

## EDUCATION

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**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)

**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

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***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, energy function.  
• Presented in the invited talk in *GeoScience Cafe*, Wuhan University

***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.  
• Presented in the invited talk on *Forum on Intelligent Connected Future and Intelligent Transportation*, Shanghai Jiao Tong University (SJTU)

***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.  
• Presented (video) on *ISPRS Congress 2021* in Nice, France

***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

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### **ChinaLiDAR 2020 *First Prize* (Ranking 1st)**

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

## INTERNSHIP

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### **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.

## PROGRAMMING AND ENGLISH SKILLS

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- 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).