

# Zhijie ZHENG

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## EDUCATION

2025/09-Present	<b>Ph.D. Student in Computer Science</b> ✓ University of California, Davis, California, USA
2022/09-2025/06	<b>Master of Engineering</b> ✓ Sun Yat-sen University, Guangdong, Guangzhou, China
2018/08-2022/06	<b>Bachelor of Engineering</b> ✓ Sun Yat-sen University, Guangdong, Guangzhou, China

## PUBLICATION

- Zhijie Zheng** & Chenhao Wang & Zhicong Huang & Kang Lin & Wei Zhou & Huan Qin & Yifei Chen & Zhongyuan Qiu & Yali Zhao & Dihui Chen. (2025). UniPT: A Unified Representation Pre-Training for Multi-dataset 3D Object Detection. *2025 The Pacific Rim International Conference on Artificial Intelligence*. (Accepted)
- Zhijie Zheng** & Zhicong Huang & Jingwen Zhao & Kang Lin & Haifeng Hu & Dihui Chen. (2025). RAFDet: Range View Augmented Fusion Network for Point-Based 3D Object Detection. *IEEE Transactions on Multimedia*. 27. 4167 – 4180. 10.1109/TMM.2025.3535289.
- Zhijie Zheng** & Zhicong Huang & Jingwen Zhao & Haifeng Hu & Dihui Chen. (2023). DTSSD: Dual-Channel Transformer-Based Network for Point-Based 3D Object Detection. *IEEE Signal Processing Letters*. 30. 798-802. 10.1109/LSP.2023.3283468.
- Zhicong Huang & **Zhijie Zheng** & Jingwen Zhao & Haifeng Hu & Zixin Wang & Dihui Chen. (2023). PSA-Det3D: Pillar set abstraction for 3D object detection. *Pattern Recognition Letters*. 168. 10.1016/j.patrec.2023.03.016.
- Zhicong Huang & Yuxiao Huang & **Zhijie Zheng** & Haifeng Hu & Dihui Chen. (2024). HybridPillars: Hybrid Point-Pillar Network for Real-time Two-stage 3D Object Detection. *IEEE Sensors Journal*. 10.1109/JSEN.2024.3468646.

## INTERNSHIP

<b>Algorithm Intern, Beijing Novauto Technology Co., Ltd.</b>	<b>2024/03-2024/08</b>
✓ Researched on multi-dataset fusion for 3D object detection algorithms in autonomous driving;	
✓ Designed a pre-training framework based on point cloud reconstruction to learn unified representations between different datasets and improve generalization ability, thereby facilitating fine-tuning of subsequent detection tasks;	
✓ Realized higher performance of networks trained on multiple datasets than those trained on a single dataset.	

## PROJECTS

<b>Research on Multi-view Enhanced 3D Object Detection Algorithm</b>	<b>2023/08-2023/12</b>
✓ Designed multi-view fusion network RAFDet to address the issue of insufficient representation of sparse point clouds;	
✓ This network consists of a bidirectional attention fusion module and an enhanced module based on range view;	
✓ Fully responsible for algorithm design, model training and testing, and paper writing and revising.	
<b>Research on Hybrid Point-Voxel 3D Object Detection Algorithm</b>	<b>2023/04-2023/08</b>
✓ Designed the point-voxel fusion 3D object detection network HybridPillars to achieve faster inference on the board;	
✓ This network consists of a sparse two-dimensional convolution and a pillar feature aggregation module;	
✓ Responsible for designing the pillar feature aggregation module and revising related paper parts.	
<b>Research on Dual-channel Feature Enhanced 3D Object Detection Algorithm</b>	<b>2022/08-2023/03</b>
✓ Designed the dual-channel enhanced network DTSSD based on Transformer to address the issue of insufficient learning of point cloud features;	
✓ This network consists of a dual-channel backbone network composed of Transformer and MLP and an enhanced module based on center density perception;	
✓ Fully responsible for algorithm design, model training and testing, and paper writing and revising.	
<b>Research on LiDAR 3D Object Detection Algorithm</b>	<b>2022/05-2022/09</b>
✓ Designed the novel 3D object detection framework PSA-Det3D to improve detection of small objects;	
✓ This network consists of a Pillar-based feature extraction module and a foreground compensation module;	
✓ Responsible for designing the PSA (pillar set abstraction) module and revising related paper parts.	

## HONORS & AWARDS

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National Scholarship for Master's Students in 2023	2023/12
Second Prize in 2023 China College IC Competition South China	2023/08
Excellent Undergraduate Degree Thesis of Sun Yat-sen University in 2022	2022/06

## PROFESSIONAL COMPETENCE

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**Programming Languages:** Python, C/C++, Verilog HDL

**Development Platform:** Visual Studio Code, Linux, Pytorch, OpenPCDet

**Software:** Win 10, Ubuntu, Microsoft Office, VMWare

**Language skills:** Chinese Mandarin (native), English (fluent)

**IELTS:** 7.5 (Reading: 8.5, Listening: 7.5, Writing: 7.0, Speaking: 6.5), taken on 2024/07/21