Zhiyi Pan Ph.D.

(+86) 185-6140-2226
panzhiyi@stu.pku.edu.cn
panzhiyi.top

Education

Peking University — Shenzen, China
Ph.D. in School of Electronic and Computer Engineering — 2021 - 2025 *(expected)*

- Advisor: Prof. Ge Li
- Research area: Label Efficient 3D Vision
- I am a member of the National Engineering Laboratory for Video Technology.

Shandong University — Qingdao, China
M.E. in School of Computer Science and Technology — 2018 - 2021

- Advisors: Prof. Changhe Tu and Prof. Yangyan Li
- Research area: Weakly Supervised Learning, Semantic Segmentation
- I was a member of the Interdisciplinary Research Center (IRC).

Shandong University — Jinan, China
B.E. in Computer Science, Taishan College — 2014 - 2018

- Advisor: Prof. Jingliang Peng
- Taishan College is the honor college of Shandong University. Our major selects less than 20 students from more than 300 undergraduates each year.

Publications

1. **Zhiyi Pan**, Nan Zhang, Wei Gao, Shan Liu and Ge Li. Point Cloud Semantic Segmentation with Sparse and Inhomogeneous Annotations. *Proceedings of the AAAI Conference on Artificial Intelligence*, 2025. (To appear.)
2. **Zhiyi Pan**, Wei Gao, Shan Liu and Ge Li. Distribution Guidance Network for Weakly Supervised Point Cloud Semantic Segmentation. *Advances in Neural Information Processing Systems*, 2024.
3. **Zhiyi Pan**, Qiong Zeng, Peng Jiang, Ge Li and Changhe Tu. Category-agnostic Semantic Edge Detection by Measuring Neural Representation Randomness. *Pattern Recognition*, 2024.
4. **Zhiyi Pan**, Haochen Sun, Peng Jiang, Ge Li, Changhe Tu and Haibin Ling. CC4S: Encouraging Certainty and Consistency in Scribble-Supervised Semantic Segmentation. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2024.
5. **Zhiyi Pan**, Guoqing Liu, Wei Gao and Thomas H. Li. EPContrast: Effective Point-level Contrastive Learning for Large-scale Point Cloud Understanding. *IEEE International Conference on Multimedia and Expo*, 2024.
6. **Zhiyi Pan**, Nan Zhang, Wei Gao, Shan Liu and Ge Li. Less Is More: Label Recommendation for Weakly Supervised Point Cloud Semantic Segmentation. *Proceedings of the AAAI Conference on Artificial Intelligence*, 2024.
7. Nan Zhang, **Zhiyi Pan**, Thomas H. Li, Wei Gao and Ge Li. Improving Graph Representation for Point Cloud Segmentation via Attentive Filtering. *The IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 2023.
8. **Zhiyi Pan**, Peng Jiang, Yunhai Wang, Changhe Tu and Anthony G. Cohn. Scribble-Supervised Semantic Segmentation by Uncertainty Reduction on Neural Representation and Self-Supervision on Neural Eigenspace. *The IEEE/CVF International Conference on Computer Vision*, 2021.
9. Guangnan Wu, **Zhiyi Pan**, Peng Jiang, and Changhe Tu. Bi-Directional Attention for Joint Instance and Semantic Segmentation in Point Clouds. *The Asian Conference on Computer Vision*, 2020.
10. Peng Jiang, **Zhiyi Pan**, Changhe Tu, Nuno Vasconcelos, Baoquan Chen, and Jingliang Peng. Super Diffusion for Salient Object Detection. *IEEE Transactions on Image Processing*, 2019.

Internships

Peng Cheng Laboratory. | Shenzhen, China 2021.08 - 2024.08

- Participate in the development of the PengCheng Mind.
- Participate in Next Generation Artificial Intelligence Open Source Community and Evaluation.

Projects

3D Reconstruction of Neural Mechanical Wave Radiance Fields
National Natural Science Foundation of China (NSFC) 2025.01 - 2028.12

Key Technology Research of Next-generation Point Cloud Compression Standards for High-precision Applications
National Natural Science Foundation of China (NSFC) 2022.01 - 2025.12

Structural Perception and Understanding of Scenes and Objects with 3D Point Cloud
National Natural Science Foundation of China (NSFC) 2021.01 - 2024.12

Awards and Honors

- **Academic Scholarship**, Peking University 2024.09
- **Academic Scholarship**, Shandong University 2018.09
- **Outstanding Graduate Student**, Shandong University 2018.09
- **Freshman Scholarship**, Shandong University 2017.09

Academic Services

Reviewers for: *IEEE Transactions on Circuits and Systems for Video Technology*,
IEEE Transactions on Multimedia,
Pattern Recognition, ICLR, CVPR, NeurIPS,
...