

# Wenzhao Zheng

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## Education

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**Department of Automation, Tsinghua University**

*PhD student in Computer Vision*

Advisor: Prof. Jie Zhou and Prof. Jiwen Lu

**Beijing, China**

*Sep 2018 – Present*

**Department of Physics, Tsinghua University**

*B.S. in Maths and Physics*

**Beijing, China**

*Sep 2014 – June 2018*

## Research Interests

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- **Omni-supervised representation learning** that exploits various types of supervision signals to learn discriminative and generalizable representations.
- **Vision-centric autonomous driving** that efficiently perceives and predicts the complex 3D world based on images.
- **Explainable artificial intelligence** that builds comprehensible and trustworthy AI systems with high performance.

## Publications

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\* indicates equal contribution

### Peer-Reviewed Conference Publications

- [1] Yuanhui Huang\*, **Wenzhao Zheng\***, Yunpeng Zhang, Jie Zhou, and Jiwen Lu  
**Tri-Perspective View for Vision-Based 3D Semantic Occupancy Prediction**  
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2023
- [2] Chengkun Wang\*, **Wenzhao Zheng\***, Junlong Li, Jie Zhou, and Jiwen Lu  
**Deep Factorized Metric Learning**  
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2023
- [3] Borui Zhang, **Wenzhao Zheng**, Jie Zhou, and Jiwen Lu  
**Bort: Towards Explainable Neural Networks with Bounded Orthogonal Constraint**  
International Conference on Learning Representations (ICLR), 2023
- [4] Yunpeng Zhang, **Wenzhao Zheng**, Zheng Zhu, Guan Huang, Jie Zhou, and Jiwen Lu  
**A Simple Baseline for Multi-Camera 3D Object Detection**  
Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI), 2023
- [5] Yi Wei\*, Linqing Zhao\*, **Wenzhao Zheng**, Zheng Zhu, Yonming Rao, Guan Huang, Jiwen Lu, and Jie Zhou  
**SurroundDepth: Entangling Surrounding Views for Self-Supervised Multi-Camera Depth Estimation**  
Conference on Robot Learning (CoRL), 2022
- [6] **Wenzhao Zheng**, Yuanhui Huang, Borui Zhang, Jie Zhou, and Jiwen Lu  
**Dynamic Metric Learning with Cross-Level Concept Distillation**  
17th European Conference on Computer Vision (ECCV), 2022

- [7] Yunpeng Zhang, **Wenzhao Zheng**, Zheng Zhu, Guan Huang, Dalong Du, Jie Zhou, and Jiwen Lu  
**Dimension Embeddings for Monocular 3D Object Detection**  
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2022
- [8] Borui Zhang, **Wenzhao Zheng**, Jie Zhou, and Jiwen Lu  
**Attributable visual similarity learning**  
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2022
- [9] **Wenzhao Zheng\***, Borui Zhang\*, Jiwen Lu, and Jie Zhou  
**Deep Relational Metric Learning**  
IEEE International Conference on Computer Vision (ICCV), 2021
- [10] **Wenzhao Zheng**, Chengkun Wang, Jiwen Lu, and Jie Zhou  
**Deep Compositional Metric Learning**  
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2021
- [11] **Wenzhao Zheng**, Jie Zhou, and Jiwen Lu  
**Structural Deep Metric Learning for Room Layout Estimation**  
16th European Conference on Computer Vision (ECCV), 2020
- [12] **Wenzhao Zheng**, Jiwen Lu, and Jie Zhou  
**Deep Metric Learning via Adaptive Learnable Assessment**  
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2020
- [13] **Wenzhao Zheng**, Zhaodong Chen, Jiwen Lu, and Jie Zhou  
**Hardness-Aware Deep Metric Learning**  
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2019, **Oral Presentation**
- [14] Yueqi Duan, **Wenzhao Zheng**, Xundong Lin, Jiwen Lu, and Jie Zhou  
**Deep Adversarial Metric Learning**  
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2018, **Spotlight Presentation**

### Peer-Reviewed Journal Publications

- [15] **Wenzhao Zheng**, Jiwen Lu, and Jie Zhou  
**Deep Metric Learning with Adaptively Composite Dynamic Constraints**  
IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI), 2023
- [16] **Wenzhao Zheng**, Jiwen Lu, and Jie Zhou  
**Hardness-Aware Deep Metric Learning**  
IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI), 2021
- [17] Yueqi Duan, Jiwen Lu, **Wenzhao Zheng**, and Jie Zhou  
**Deep Adversarial Metric Learning**  
IEEE Transactions on Image Processing (T-IP), 2020

### Honors and Awards

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- Tsinghua Xuancheng Scholarship 2022
- Chinese National Scholarship 2021
- CVPR 2021 Outstanding Reviewer 2021

- Tsinghua Changtong Scholarship 2020
- **Chinese National Scholarship** 2019
- Tsinghua Tung OOCL Scholarship 2017
- Tsinghua German Scholarship 2016

## Academic Services

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### Conference Senior PC Member

- International Joint Conference on Artificial Intelligence (IJCAI), 2021

### Conference Reviewer / PC Member

- IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2019-2022
- International Conference on Computer Vision (ICML), 2019,2021
- European Conference on Computer Vision (ECCV), 2020,2022
- International Conference on Learning Representations (ICLR), 2023
- International Joint Conference on Artificial Intelligence (IJCAI), 2020,2022
- IEEE Winter Conference on Applications of Computer Vision (WACV), 2020-2022
- IEEE International Conference on Multimedia and Expo (ICME), 2019-2022

### Journal Reviewer

- IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)
- IEEE Transactions on Neural Networks and Learning Systems (T-NNLS)
- IEEE Transactions on Image Processing (T-IP)
- IEEE Transactions on Biometrics, Identity and Behavior (T-BIOM)
- ACM Transactions on Intelligent Systems and Technology (TIST)
- Pattern Recognition (PR)