

Xu Zheng

1st year Ph.D Student @ HKUST(GZ)

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EDUCATION

- **The Hong Kong University of Science and Technology (Guangzhou)** GuangZhou, China
Doctor of Philosophy - Artificial Intelligence 2023.09 - present
- **Northeastern University** Shenyang, China
Master of Engineering - Information and Communication Engineering 2020.09 - 2023.06
- **Northeastern University** Shenyang, China
Bachelor of Engineering - Communication Engineering 2015.09 - 2019.06

RESEARCH INTERESTS

Multi-modal Artificial Intelligence:

Vision-Language Learning, Multi-modal Vision-language Models, Multi-modal Robot Learning

Sensing and Perception:

Semantic Segmentation, Object Detection, Object Recognition, Action Recognition

Novel Sensors and Applications :

Event Camera and Event-based Vision, 360 Camera and Omnidirectional Vision, Fish-eye Camera

Deep Learning :

Transfer Learning, Knowledge Distillation, Semi-supervised Learning, Neural Network Architecture

Others :

Image Restoration and Enhancement, Medical Image Analysis

PUBLICATIONS

Top Conference & First Author × 6, Others × 3:

1. **Xu Zheng** and Lin Wang. EventDance: Unsupervised Cross-modal Source-free Adaptation for Event-based Object Recognition. IEEE/CVF CVPR 2024.
2. **Xu Zheng**, Pengyuan Zhou, Athanasios V. Vasilakos and Lin Wang. Semantics, Distortion, and Style Matter: Towards Source-free UDA for Panoramic Segmentation. IEEE/CVF CVPR 2024.
3. Yuanhuiyi Lyu*, **Xu Zheng*** (co-first author), Jiazhou Zhou and Lin Wang. UniBind: LLM-Augmented Unified and Balanced Representation Space to Bind Them All. IEEE/CVF CVPR 2024.
4. **Xu Zheng**, Tianbo Pan, Yunhao Luo and Lin Wang. Look at the Neighbor: Distortion-aware Unsupervised Domain Adaptation for Panoramic Semantic Segmentation. IEEE/CVF ICCV 2023.
5. **Xu Zheng**, Jinjing Zhu, Yexin Liu, Zidong Cao, Chong Fu and Lin Wang. Both Style and Distortion Matter: Dual-Path Unsupervised Domain Adaptation for Panoramic Semantic Segmentation. IEEE/CVF CVPR 2023.
6. **Xu Zheng**, Yunhao Luo, Hao Wang, Chong Fu and Lin Wang. Transformer-cnn cohort: Semi-supervised semantic segmentation by the best of both students. IEEE ICRA 2024.
7. Jiazhou Zhou, **Xu Zheng**, Yuanhuiyi Lyu and Lin Wang. ExACT: Language-guided Conceptual Reasoning and Uncertainty Estimation for Event-based Action Recognition and More. IEEE/CVF CVPR 2024.
8. Weiming Zhang, Yexin Liu, **Xu Zheng** and Lin Wang. GoodSAM: Bridging Domain and Capacity Gaps via Segment Anything Model for Distortion-aware Panoramic Semantic Segmentation. IEEE/CVF CVPR 2024.
9. Jiahang Cao, **Xu Zheng**, Yuanhuiyi Lyu, Jiaxu Wang, Renjing Xu and Lin Wang. Chasing Day and Night: Towards Robust and Efficient All-Day Object Detection Guided by an Event Camera. IEEE ICRA 2024.

Journal & First Author × 1, Others × 3

1. **Xu Zheng**, Chong Fu, Haoyu Xie, Jialei Chen, Xingwei Wang and Chiu-Wing Sham. Uncertainty-aware deep co-training for semi-supervised medical image segmentation. Computers in Biology and Medicine 2022.
2. Haoyu Xie, Chong Fu, **Xu Zheng**, Yu Zheng, Chiu-Wing Sham and Xingwei Wang. Adversarial co-training for semantic segmentation over medical images. Computers in Biology and Medicine 2023.
3. Jialei Chen, Chong Fu, Haoyu Xie, **Xu Zheng**, Rong Geng, Chiu-Wing Sham. Uncertainty teacher with dense focal loss for semi-supervised medical image segmentation. Computers in Biology and Medicine 2022.

4. Jialei Chen, Daisuke Deguchi, Chenkai Zhang, **Xu Zheng** and Hiroshi Murase. Frozen is Better than Learning: A New Design of Prototype-Based Classifier for Semantic Segmentation. Pattern Recognition 2024.

Preprints & First Author × 2, Others × 4

1. **Xu Zheng**, Yexin Liu, Yunfan Lu, Tongyan Hua, Tianbo Pan, Weiming Zhang, Dacheng Tao and Lin Wang. Deep learning for event-based vision: A comprehensive survey and benchmarks. Arxiv 2023.

2. **Xu Zheng**, Yunhao Luo, Pengyuan Zhou and Lin Wang. Distilling Efficient Vision Transformers from CNNs for Semantic Segmentation. Arxiv 2023.

3. Yuanhuiyi Lyu, **Xu Zheng** and Lin Wang. Image Anything: Towards Reasoning-coherent and Training-free Multi-modal Image Generation. Arxiv 2024.

4. Jiazhou Zhou, **Xu Zheng**, Yuanhuiyi Lyu and Lin Wang. EventBind: Learning a Unified Representation to Bind Them All for Event-based Open-world Understanding. Arxiv 2023.

5. Jialei Chen, Daisuke Deguchi, Chenkai Zhang, **Xu Zheng** and Hiroshi Murase. Clip is also a good teacher: A new learning framework for inductive zero-shot semantic segmentation. Arxiv 2023.

6. Yunfan Lu, Yiqi Lin, Hao Wu, Yunhao Luo, **Xu Zheng** and Lin Wang. All one needs to know about priors for deep image restoration and enhancement: A survey. Arxiv 2022.

INTERNSHIPS

• VLISLab, HKUST(GZ) <i>Research Assistant</i>	Remote 2021.11 - 2023.06
• Northeastern University (United States) <i>Research Assistant</i>	Remote 2022.06 - 2022.09
• Hakkaido University <i>Summer Institute</i>	Remote 2021.08 - 2021.09

HONORS AND AWARDS

- Outstanding Master's Thesis in Liaoning Province -2023 (<2 %)
- Outstanding Graduate of Liaoning Province -2023 (<2 %)
- National Scholarship of China -2022 (<2 %)
- First Class Master Scholarship of Northeastern University - 2020/2021/2022 (20 %)
- Outstanding Graduate of Liaoning Province -2019 (<2 %)
- Outstanding Graduate of Northeastern University - 2019 (<2 %)
- First Class Scholarship of Northeastern University - 2019 (2 %)

PROFESSIONAL & SOCIETY & SCHOOL SERVICE

- Reviewers of International Journal of Computer Vision (IJCV), Computers in Biology and Medicine (CBM).
- Program Members of ECCV 2024.
- Volunteer Teaching from 2019-2020.
- President of the NEU CSE Student Science and Technology Association from 2017-2018.
- President of the NEU CSE Graduates Committee from 2018-2019.
- President of the NEU CSE Graduate Student Association from 2021-2022.