

ZHEDONG ZHENG

Personal Webpage: <http://zdzheng.xyz> • [Google Scholar](#) • [Research Gate](#)

Email: zdzheng12@gmail.com • Date of Birth: 1993.10

Research Interests

Computer Vision and Machine Learning

Image Retrieval, Target Re-identification, Image-text Understanding
Image Generation, Domain Adaptation, Adversarial Samples

Education & Employment

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|--|----------------|
| National University of Singapore , Singapore | 2021 - Present |
| Postdoctoral Research Fellow (Advisor: Prof. Tat-seng Chua) | |
| University of Technology Sydney , Sydney, Australia | 2017 - 2021 |
| Ph.D Student (Advisors: Prof. Yi Yang and Dr. Liang Zheng) | |
| Fudan University , Shanghai, China | 2012 - 2016 |
| B.S. in Computer Science (Advisor: Prof. Xiangyang Xue) | |
| Baidu Research , Beijing, China | 2020 |
| Remote Research Intern (Hosts: Mr. Minyue Jiang and Dr. Xiao Tan) | |
| Nvidia Research , San Jose, United States | 2018 |
| Research Intern (Hosts: Dr. Xiaodong Yang, Dr. Zhiding Yu and Dr. Jan Kautz) | |

Awards & Competitions

Awards

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| Outstanding Ph.D. Thesis on the Chancellor's List | 2021 |
| IEEE Circuits and Systems Society Outstanding Young Author Award (<i>1 recipient world-wide</i>) | 2021 |
| Zhejiang Lab's International Talent Fund for Young Professionals (No.ZJ2020GZ021) | 2021 |
| UTS Vice-Chancellor's Conference Fund | 2020 |
| UTS AAIL Student Best Paper Award | 2020 |
| IEEE ICME Outstanding Reviewer Award | 2020 |
| First-class Scholarship at Fudan University | 2013, 2014, 2015, 2016 |
| EMC Scholarship | 2013 |

Competitions

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| AICity Challenge: Language-based Vehicle Retrieval Challenge, Rank 1st / 15 teams | CVPR 2021 |
| AICity Challenge: Vehicle Re-identification Challenge, Rank 2nd / 51 teams | CVPR 2021 |
| Evoked Expressions from Videos (EEV) Challenge, Rank 2nd / 11 teams | CVPR 2021 |
| AICity Challenge: Vehicle Re-identification Challenge, Rank 1st / 64 teams | CVPR 2020 |
| AICity Challenge: Vehicle Re-identification Challenge, Rank 4th / 84 teams | CVPR 2019 |
| VisDA: Semi-Supervised Domain Adaptation Challenge, Rank 4th / 57 teams | ICCV 2019 |
| US Patent Application: Image identification using neural networks 16357047 | |

Publications

Journals

1. Adaptive Boosting for Domain Adaptation: Towards Robust Predictions in Scene Segmentation.
IEEE Transactions on Image Processing (**TIP**), 2022.

Zhedong Zheng, Yi Yang

2. Rectifying Pseudo Label Learning via Uncertainty Estimation for Domain Adaptive Semantic Segmentation.

International Journal of Computer Vision (**IJCV**), 2021.

Zhedong Zheng, Yi Yang

3. VehicleNet: Learning Robust Visual Representation for Vehicle Re-identification.

IEEE Transactions on Multimedia (**TMM**), 2020.

Zhedong Zheng, Tao Ruan, Yunchao Wei, Yi Yang, Tao Mei

4. Dual-Path Convolutional Image-Text Embedding with Instance Loss.

ACM Transactions on Multimedia Computing, Communications, and Applications (**TOMM**), 2020.

Zhedong Zheng, Liang Zheng, Michael Garrett, Yi Yang, Mingliang Xu, Yi-Dong Shen

5. Pedestrian Alignment Network for Large-scale Person Re-identification.

IEEE Transactions on Circuits and Systems for Video Technology (**TCSVT**), 2019.

Zhedong Zheng, Liang Zheng, Yi Yang (**ESI Highly Cited Paper, Cited by 400+ times**)

6. A Discriminatively Learned CNN Embedding for Person Re-identification.

ACM Transactions on Multimedia Computing, Communications, and Applications (**TOMM**), 2018.

Zhedong Zheng, Liang Zheng, Yi Yang (**ESI Highly Cited Paper, Cited by 700+ times**)

7. Point Cloud Pre-training by Mixing and Disentangling.

IEEE Transactions on Multimedia (**TMM**), 2022.

Chao Sun, **Zhedong Zheng***, Xiaohan Wang, Mingliang Xu, Yi Yang (*: Corresponding Author)

8. Multi-pseudo Regularized Label for Generated Samples in Person Re-Identification.

IEEE Transactions on Image Processing (**TIP**), 2018.

Yan Huang, Jinsong Xu, Qiang Wu, **Zhedong Zheng**, Zhaoxiang Zhang, Jian Zhang

9. Camstyle: a novel data augmentation method for person re-identification.

IEEE Transactions on Image Processing (**TIP**), 2018.

Zhun Zhong, Liang Zheng, **Zhedong Zheng**, Shaozi Li, Yi Yang (**ESI Highly Cited Paper, Cited by 500+ times**)

10. Bayesian query expansion for multi-camera person re-identification.

Pattern Recognition Letters, 2018.

Yutian Lin, **Zhedong Zheng**, Hong Zhang, Chenqiang Gao, Yi Yang

11. Improving Person Re-identification by Attribute and Identity Learning.

Pattern Recognition (**PR**), 2019.

Yutian Lin, Liang Zheng, **Zhedong Zheng**, Yu Wu, Zhilan Hu, Chenggang Yan, Yi Yang (**ESI Highly Cited Paper, Cited by 600+ times**)

12. Thorax disease classification with attention guided convolutional neural network.

Pattern Recognition Letters, 2020.

Qingji Guan, Yaping Huang, Zhun Zhong, **Zhedong Zheng**, Liang Zheng, Yi Yang

13. Unsupervised Eyeglasses Removal in the Wild.

IEEE Transactions on Cybernetics (**TCYB**), 2020.

Bingwen Hu, **Zhedong Zheng**, Ping Liu, Wankou Yang, Mingwu Ren

14. Each Part Matters: Local Patterns Facilitate Cross-view Geo-localization.

IEEE Transactions on Circuits and Systems for Video Technology (**TCSVT**), 2021.

Tingyu Wang, **Zhedong Zheng**, Chenggang Yan, Jiyong Zhang, Yaoqi Sun, Bolun Zheng, Yi Yang (**ESI Highly Cited Paper**)

15. Soft Person Re-identification Network Pruning via Block-wise Adjacent Filter Decaying.

IEEE Transactions on Cybernetics (**TCYB**), 2021.

Xiaodong Wang, **Zhedong Zheng**, Yang He, Fei Yan, Zhiqiang Zeng, Yi Yang

16. SPG-VTON: Semantic Prediction Guidance for Multi-pose Virtual Try-on.
IEEE Transactions on Multimedia (**TMM**), 2022.
Bingwen Hu, Ping Liu, **Zhedong Zheng**, Mingwu Ren
17. Joint Representation Learning and Keypoint Detection for Cross-view Geo-localization.
IEEE Transactions on Image Processing (**TIP**), 2022.
Jinliang Lin, **Zhedong Zheng**, Zhun Zhong, Zhiming Luo, Shaozi Li, Yi Yang, Nicu Sebe
18. Heterogeneous Feature Alignment and Fusion in Cross-modal Augmented Space for Composed Image Retrieval
IEEE Transactions on Multimedia (**TMM**), 2022.
Xiaohan Wang, Linchao Zhu, **Zhedong Zheng**, Mingliang Xu, Yi Yang

Refereed Conferences

1. Unlabeled Samples Generated by GAN Improve the Person Re-identification Baseline in vitro.
IEEE International Conference on Computer Vision (**ICCV**), 2017. (Spotlight)
Zhedong Zheng, Liang Zheng, Yi Yang (**Cited by 1500+ times**)
2. Joint Discriminative and Generative Learning for Person Re-identification.
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2019. (Oral)
Zhedong Zheng, Xiaodong Yang, Zhiding Yu, Liang Zheng, Yi Yang, Jan Kautz (**Cited by 500+ times**)
3. Unsupervised Scene Adaptation with Memory Regularization in vivo.
International Joint Conference on Artificial Intelligence (**IJCAI**), 2020.
Zhedong Zheng, Yi Yang
4. University-1652: A Multi-view Multi-source Benchmark for Drone-based Geo-localization.
ACM Multimedia (**ACM MM**), 2020.
Zhedong Zheng, Yunchao Wei, Yi Yang
5. Going beyond real data: A robust visual representation for vehicle re-identification
IEEE Conference on Computer Vision and Pattern Recognition Workshop (**CVPR Workshop**), 2020
Zhedong Zheng, Minyue Jiang, Zhigang Wang, Jian Wang, Zechen Bai, Xuanmeng Zhang, Xin Yu, Xiao Tan, Yi Yang, Shilei Wen and Errui Ding (**Challenge Winner**)
6. Macro-Micro Adversarial Network for Human Parsing.
European Conference on Computer Vision (**ECCV**), 2018.
Yawei Luo, **Zhedong Zheng**, Liang Zheng, Tao Guan, Junqing Yu, Yi Yang
7. Camera Style Adaptation for Person Re-identification.
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2018.
Zhun Zhong, Liang Zheng, **Zhedong Zheng**, Shaozi Li, Yi Yang
8. Real-World Automatic Makeup via Identity Preservation Makeup Net.
International Joint Conference on Artificial Intelligence (**IJCAI**), 2020.
Zhikun Huang, **Zhedong Zheng**, Chenggang Yan, Hongtao Xie, Yaoqi Sun, Jianzhong Wang, Jiyong Zhang
9. Decoupled and Memory-Reinforced Networks: Towards Effective Feature Learning for One-Step Person Search.
The AAAI Conference on Artificial Intelligence (**AAAI**), 2021.
Chuchu Han, **Zhedong Zheng**, Changxin Gao, Nong Sang, Yi Yang
10. Multi-View Consistent Generative Adversarial Networks for 3D-aware Image Synthesis
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2022.
Xuanmeng Zhang, **Zhedong Zheng**, Daiheng Gao, Bang Zhang, Pan Pan, Yi Yang

Preprint Papers

1. Query Attack via Opposite-Direction Feature: Towards Robust Image Retrieval.
Zhedong Zheng, Liang Zheng, Yi Yang, Fei Wu
2. Parameter-Efficient Person Re-identification in the 3D Space.
Zhedong Zheng, Yi Yang
3. 3D Magic Mirror: Clothing Reconstruction from a Single Image via a Causal Perspective.
Zhedong Zheng, Jiayin Zhu, Wei Ji, Yi Yang, Tat-Seng Chua
4. Progressive Local Filter Pruning for Image Retrieval Acceleration.
Xiaodong Wang, **Zhedong Zheng**, Yang He, Fei Yan, Zhiqiang Zeng, Yi Yang
5. Understanding Image Retrieval Re-Ranking: A Graph Neural Network Perspective.
Xuanmeng Zhang, Minyue Jiang, **Zhedong Zheng**, Xiao Tan, Errui Ding, Yi Yang
6. Multiple-environment Self-adaptive Network for Aerial-view Geo-localization.
Tingyu Wang, **Zhedong Zheng**, Yaoqi Sun, Tat-Seng Chua, Yi Yang, Chenggang Yan
7. Jointly Harnessing Prior Structures and Temporal Consistency for Sign Language Video Generation.
Yucheng Suo, **Zhedong Zheng**, Xiaohan Wang, Bang Zhang, Yi Yang
8. Subband-based Generative Adversarial Network for Non-parallel Many-to-many Voice Conversion.
Jian Ma, **Zhedong Zheng**, Hao Fei, Feng Zheng, Tat-seng Chua, Yi Yang

Review Services

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
International Journal of Computer Vision (IJCV)
IEEE Transactions on Image Processing (TIP)
IEEE Transactions on Multimedia (TMM)
IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)
ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM)
Computer Vision and Pattern Recognition (CVPR)
International Conference on Computer Vision (ICCV)
European Conference on Computer Vision (ECCV)
International Joint Conference on Artificial Intelligence (IJCAI)
AAAI Conference on Artificial Intelligence (AAAI)
ACM Multimedia (ACM MM)

Invited Talk

Keynote speaker at AICity Challenge @ CVPR 2021
Keynote speaker at AICity Challenge @ CVPR 2020
Tutorial speaker at Multimedia Content Understanding in Harsh Environments @ ACM MM 2022
2021.08: Data. Data! How to deal with Data Scarcity? Fudan University
2021.07: Scene Understanding from Aerial View. Zhejiang University
2021.01: Visual Matching: From Re-identification to Geo-localization. Fudan University
2020.12: Image Generation for Robust Image Retrieval. Alibaba Inc.
2020.11: A Multi-view Multi-source Benchmark for Drone-based Geo-localization. [\[Link\]](#) UTS

Open Source

Codes and models for my published papers are available on my GitHub: <https://github.com/layumi> (6,900 stars and 1,700 followers)