Xiang Li(李祥)

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Work

King Abdullah University of Science and Technology Dec. 2022 – Present
Postdoctoral Researcher, Supervisor: Mohamed Elhoseiny

New York University Oct. 2019 – Jul. 2022
Postdoctoral Researcher, Supervisor: Yi Fang

Education

University of Chinese Academy of Sciences Sep. 2014 – Jun. 2019
PhD. in Cartography and Geographic Information System, Supervisor: Tianhe Chi

New York University Dec. 2017 – Jau. 2019
Research Assistant, Supervisor: Yi Fang

Wuhan University Sep. 2010 – Jun. 2014
B.S. in Remote Sensing Science and Technology, GPA: 3.7/4.0, rank: 1/80

Research Interests

Computer Vision, Remote Sensing

Honors

- ICCV 2021 **Outstanding reviewer**
- 2021, NYU Abu Dhabi Postdoctoral Non-travel Award
- 2020, NYU Abu Dhabi Postdoctoral Non-travel Award
- **2018, Excellent research paper award (top 30)**, Institute of Remote Sensing and Digital Earth (RADI), Chinese Academy of Sciences
- **2017, National Scholarship**
- **2017, China Scholarship Council scholarship**
- 2012, Seagate Scholarship, Wuhan University
- **2011, National Scholarship**

Grants

- 2016, CNN-based object detection on high-resolution remote sensing images, Presidential Foundation of RADI.

Peer-reviewed Journal Papers

(† equal contribution, * corresponding author)

1. C Wen, **X Li***, H Huang, Y Liu, Y Fang, 3D Shape Contrastive Representation Learning with Adversarial Examples. IEEE Transactions on Multimedia (TMM), accepted. (**top journal, IF=8.2**)
2. L Wang, N Zhou, H Huang, **X Li***, Y Fang. GP-Aligner: Unsupervised Non-rigid Groupwise Point Set Registration Based On Optimized Group Latent Descriptor, IEEE Transactions on Geosciences and Remote Sensing, accepted. (**top journal, IF=5.6**)

3. **X Li**, L Wang, Y Fang. Unsupervised Partial Point Set Registration via Joint Shape Completion and Registration. IEEE Transactions on Visualization and Computer Graphics (TVCG) 2022, accepted. (**top journal, IF=4.6**)
4. X Jiang, N Zhou, **X Li***. Few-Shot Segmentation of Remote Sensing Images using Deep Metric Learning. IEEE Geosciences and Remote Sensing Letters (GRSL), 2022. (IF=4.0)
5. Y Du, J Yin, **X Li**, F Gao, J Yang. Accurate and efficient solution of electromagnetic scattering from randomly rough surface using MoM-SMCG with adaptive quadrature. Electronics Letters, 2021. (IF=1.3)
6. **X Li**, L Wang, Y Fang. Geometry-Aware Segmentation of Remote Sensing Images via implicit height estimation. IEEE Geoscience and Remote Sensing Letters, 2021. (IF=4.0)
7. **X Li**†, J Deng†, Y Fang. Few-shot Object Detection on Remote Sensing Images. IEEE Transactions on Geoscience and Remote Sensing, 2021. (**top journal, IF=5.6, highly cited paper**)
8. N Zhou†, **X Li**†, Z Shen, T Wu, J Luo. Geo-parcel-based Change Detection Using Optical and SAR Images in Cloudy and Rainy Areas. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2020. (IF=3.8)
9. R Chen†, **X Li**†, Y Hu, L Peng. Road Extraction from Remote Sensing Images in Wildland-Urban Interface Areas. IEEE Geosciences and Remote Sensing Letters, 2020. (IF=4.0)
10. **X Li**, M Wang, Y Fang. Height estimation from single aerial images using a deep ordinal regression network. IEEE Geoscience and Remote Sensing Letters, 2020. (IF=4.0)
11. C Wen, **X Li**, L Peng, T Chi. Airborne LiDAR Point Cloud Classification with Graph Attention Convolution Neural Network. ISPRS Journal of Photogrammetry and Remote Sensing, 2020. (**top journal, IF=9.0**)
12. **X Li**, L Wang, M Wang, C Wen, N Zhou, Y Fang. Density-Aware Convolutional Networks with Context Encoding for Airborne LiDAR Point Cloud Classification, ISPRS Journal of Photogrammetry and Remote Sensing, 2020(166):128-139. (**top journal, IF=9.0**)
13. **X Li**†, C Wen†, L W, Y Fang. Topology Constrained Shape Correspondence, IEEE Transactions on Visualization and Computer Graphics (TVCG), 2020. (**top journal, IF=4.6**)
14. C Wen, L Yang, L Peng, **X Li***, T Chi. Directionally Constrained Fully Convolutional Neural Network For Airborne Lidar Point Cloud Classification, ISPRS Journal of Photogrammetry and Remote Sensing, 2020(162):50-62. (**top journal, IF=9.0**)
15. C Wen, S Liu, X Yao, L Peng, **X Li**, Y Hu, T Chi. A novel spatiotemporal convolutional long short-term neural network for air pollution prediction[J]. Science of The Total Environment, 2019, 654: 1091-1099. (**top journal, IF=8.0**, **highly cited paper**)
16. Y Hu, **X Li**, N Zhou, L Yang, L Peng. A Sample Update-based Convolutional Neural Network Framework for Object Detection in Large-area Remote Sensing Images. IEEE Geoscience and Remote Sensing Letters, 2019, 16(6). (IF=4.0)
17. **X Li**, X Yao, Y Fang. Building-A-Nets: Robust building extraction from high-resolution Remote Sensing images with adversarial networks, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2018(99):1-8. (IF=3.8)
18. Y Hu, L Peng, **X Li**, X Yao, H Lin, T Chi. A novel evolution tree for analyzing the global energy consumption structure[J]. Energy, 2018, 147: 1177-1187. (**top journal, IF=7.1**)
19. **X Li**, L Peng, X Yao. S Cui, Y Hu, C You, T Chi. Long short-term memory neural network for air pollutant concentration predictions: Method development and evaluation, Environmental Pollution, 2017, 231P1: 997-1004. (**top journal, IF=8.1**, **highly cited paper**)
20. H Tian, W Li, M Wu, N Huang, G Li, **X Li**, Z Niu, Dynamic monitoring of the largest freshwater lake in China using a new water index derived from high spatiotemporal resolution Sentinel-1A data. Remote Sensing, 2017, 9(6), 521. (IF=4.8)
21. **X Li**, L Peng, Y Hu, J Shao, T Chi. Deep learning architecture for air quality predictions, Environmental Science and Pollution Research, 2016,23(22):22408-22417. (IF=4.2)

Peer-Reviewed Conference Papers

1. X Shen, **X Li**, M Elhoseiny. MoStGAN: Video Generation with Temporal Motion Styles, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2023, accepted.
2. S Yuan†, **X Li**†, H Huang, Y Fang. Meta-Det3D: Learn to Learn Few-Shot 3D Object Detection. Asian Conference on Computer Vision (ACCV), 2022, **Oral**.
3. **X Li***, C Wen†, H Huang, Y Fang. Unsupervised 3D Shape Representation Learning using Normalizing Flow. Asian Conference on Computer Vision (ACCV), 2022.

4. H Huang, **X Li**, L Wang, Y Fang. 3D-MetaConNet: Meta-learning for 3D Shape Classification and Segmentation. International Conference on 3D Vision (3DV) 2021.
5. H Huang, J Chen, **X Li**, L Wang, Y Fang. Robust Image Matching By Dynamic Feature Selection. British Machine Vision Conference (BMVC), 2020.
6. S Yuan†, **X Li**†, Y Fang. 3DMotion-Net: Learning Continuous Flow Function for 3D Motion Prediction. The IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2020.
7. L Wang†, **X Li**†, Y Fang. Few-shot Learning of Part-specific Probability Space for 3D Shape Segmentation, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020.
8. J Chen, L Wang, **X Li**, Y Fang. Arbicon-Net: Arbitrary Continuous Geometric Transformation Networks for Image Registration, Neural Information Processing Systems (NeurIPS), 2019.
9. Y Hu, Y Chen, **X Li**, J Feng. Dynamic Feature Fusion for Semantic Edge Detection, International Joint Conferences on Artificial Intelligence (IJCAI), 2019.
10. **X Li**, L Wang, Y Fang. PC-Net: Unsupervised Point Correspondence Learning with Neural Networks, International Conference on 3D Vision (3DV), 2019.
11. **X Li**, H Cui, J Rizzo, E Wong, Y Fang. Cross-Safe: A computer vision-based approach to make all intersection-related pedestrian signals accessible for the visually impaired, Computer Vision Conference 2019. (**best student paper nomination**)

SERVICES

- Journal Review: ISPRS Journal of Photogrammetry and Remote Sensing (ISPRS JPRS), IEEE Transactions on Geoscience and Remote Sensing (IEEE TGRS), IEEE Transactions on Image Processing (IEEE TIP), IEEE Transactions on Visualization and Computer Graphics (IEEE TVCG), IEEE Transactions on Circuits and Systems for Video Technology (IEEE TCSVT), IEEE Transactions on Big Data (TBB), IEEE Geoscience and Remote Sensing Letters (IEEE GRSL), Pattern Recognition Letters (PRL), International Journal of Digital Earth (IJDI), Computational Intelligence and Neuroscience, ISPRS International Journal of Geo-Information (IJGI), Air Quality, Atmosphere & Health (AIRQ), IEEE Access, Sensors.
- Conference Review: BMVC 2020, ICCV 2021, IROS 2021, BMVC 2021, AAAI 2022, CVPR 2022, ECCV 2022, CVPR 2023.
- Book Chapters: Theory and Practice of Smart City Pulse Analysis, by Ling Peng, et al., 2018.

INVITED TALKS

- May. 2020, China University of Mining and Technology, Object detection and the Applications in Mining Technology.
- Apr. 2019, Beijing Normal University, The applications of Deep Learning in GIS.