Xiang Li

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Education

New York University   Jul. 2019 – Present

Postdoctoral Associate, Research Interest: computer vision, deep learning, remote sensing

New York University   Dec. 2017 – Jau. 2019

Research Assistant, supervisor: Yi Fang

University of Chinese Academy of Sciences   Sep. 2014 – Jun. 2019

PhD. in Cartography and Geographic Information System, Research Assistant, supervisor: Tianhe Chi

Wuhan University   Sep. 2010 – Jun. 2014

B.S. in Remote Sensing Science and Technology, GPA: 3.7/4.0, rank: 1/80

Research Interests

Deep Learning, 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, National Scholarship**, University of Chinese Academy of Sciences
- **2018, Excellent research paper award**, Institute of Remote Sensing and Digital Earth (RADI), Chinese Academy of Sciences
- **2017, China Scholarship Council scholarship**
- 2016, Presidential Foundation of RADI
- 2012, Seagate Scholarship, Wuhan University
- **2011, National Scholarship**, Wuhan University

Peer-reviewed Journal Papers

(† equal contribution, * corresponding author)

1. **X Li**, C Wen, Q Cao, Y Fang. A Novel Semi-supervised Method for Airborne LiDAR Point Cloud Classification. ISPRS Journal of Photogrammetry and Remote Sensing, 2021, accepted. (JCR Q1, **top journal, IF=6.9**)
2. **X Li**, L Wang, Y Fang. Geometry-Aware Segmentation of Remote Sensing Images via implicit height estimation. IEEE Geoscience and Remote Sensing Letters, 2021, accepted. (JCR Q2, IF=3.5)
3. **X Li**†, J Deng†, Y Fang. Few-shot Object Detection on Remote Sensing Images. IEEE Transactions on Geoscience and Remote Sensing, 2021, accepted. (JCR Q1, **top journal, IF=5.8**)
4. 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, accepted, 2020. (JCR Q2, IF=3.5)
5. 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, accepted. (JCR Q2, IF=3.5)
6. **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, accepted. (JCR Q2, IF=3.5)

7. 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, accepted. (JCR Q1, **top journal, IF=6.9**)
8. **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. (JCR Q1, **top journal, IF=6.9**)
9. **X Li**†, C Wen†, L W, Y Fang. Topology Constrained Shape Correspondence, IEEE Transactions on Visualization and Computer Graphics, 2020, accepted. (JCR Q1, **top journal, IF=3.8**)
10. 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. (JCR Q1, **top journal, IF=6.9**)
11. 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. (JCR Q1, **top journal, IF=4.6**, **highly cited paper**)
12. Y Hu, **X Li**, 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). (JCR Q2, IF=3.5)
13. **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. (JCR Q2, IF=2.8)
14. 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. (JCR Q1, **top journal, IF=4.9**)
15. **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. (JCR Q1, **top journal, IF=5.1**, **highly cited paper**)
16. 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. (JCR Q2, IF=4.1)
17. **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. (JCR Q2, IF=2.7)

PEER-REVIEWED CONFERENCE PAPERS

1. H Huang, J Chen, **X Li**, L Wang, Y Fang. Robust Image Matching By Dynamic Feature Selection. British Machine Vision Conference (BMVC) 2020, accepted.
2. 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.
3. 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.
4. J Chen, L Wang, **X Li**, Y Fang. Arbicon-Net: Arbitrary Continuous Geometric Transformation Networks for Image Registration, Neural Information Processing Systems (NeurIPS), 2019.
5. Y Hu, Y Chen, **X Li**, J Feng. Dynamic Feature Fusion for Semantic Edge Detection, International Joint Conferences on Artificial Intelligence (IJCAI), 2019.
6. **X Li**, L Wang, Y Fang. PC-Net: Unsupervised Point Correspondence Learning with Neural Networks, International Conference on 3D Vision (3DV), 2019.
7. **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**)

UNDER REVIEW PAPERS

1. **X Li**, L Wang, Y Fang. Unsupervised Partial Point Set Registration via Joint Shape Completion and Registration. IEEE Transactions on Visualization and Computer Graphics (JCR Q1), major revision.
2. **X Li**, L Wang, Y Fang. Learn to Learn Metric Space for Few-Shot Part Segmentation of 3D Shapes. International Journal of Computer Vision, under review.
3. S Yuan†, **X Li**†, Y Fang. DeepTracking-Net: 3D Tracking with Unsupervised Learning of Continuous

Flow. International Journal of Computer Vision 2021, under review.

4. S Yuan†, **X Li**†, Y Fang. Learn to Learn Few-Shot 3D Object Detection. IEEE International Conference on Computer Vision (ICCV) 2021, under review.

5. H Huang, **X Li**, L Wang, Y Fang. 3D Meta Point Signature: Learning to Learn 3D Point Signature for 3D Dense Shape Correspondence. IEEE International Conference on Computer Vision (ICCV) 2021, under review.

6. **X Li**, L Wang, Y Fang. Monocular 3D Object Detection via Dense Fusion of RGB and Pseudo-LiDAR. IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2021, under review.

7. L Wang†, **X Li**†, Y Fang. GP-Aligner: Unsupervised Non-rigid Groupwise Point Set Registration Based On Optimized Group Latent Descriptor, International Conference on Machine Learning (ICML) 2021, under review.

8. L Wang, X Li, Y Fang. Deep-3DAligner: Unsupervised 3D Point Set Registration Network With Optimizable Latent Vector, International Conference on Machine Learning (ICML) 2021, under review.

ACTIVITIES

- Journal Review: ISPRS Journal of Photogrammetry and Remote Sensing (ISPRS J. PRS), IEEE Transactions on Geoscience and Remote Sensing (IEEE TGRS), IEEE Geoscience and Remote Sensing Letters (IEEE GRSL), Pattern Recognition Letters (PRL), Computational Intelligence and Neuroscience, IEEE Transactions on Big Data (TBB), Air Quality, Atmosphere Health (AIRQ), IEEE ACCESS.

- Conference Review: BMVC 2020, ICCV 2021, IROS 2021, AAAI2022.

- Book Chapters: Theory and Practice of Smart City Pulse Analysis, by Ling Peng, et al., 2018.

- Google Scholar Citations 843 (data accessed at Sep 6, 2021): `https://scholar.google.com/citations?user=4Apl5FgAAAAJ`

INVITED TALKS

- May. 2020, China University of Mining and Technology, Computer Vision and the Application in Mining Technology.

- Apr. 2019, Beijing Normal University, Deep Learning and the Application in GIS.