Weijia Li

Associate Professor, School of Geospatial Engineering and Science, Sun Yat-Sen University

(+86) 173-4312-2675 | liweij29@mail.sysu.edu.cn | liweijia.github.io

Education

Tsinghua University *Beijing, China*

PH.D. IN DEPARTMENT OF EARTH SYSTEM SCIENCE *Sep. 2014 - July 2019*

- Supervisor: Prof. Haohuan Fu (`http://www.thuhpgc.net/mediawiki/index.php/Haohuan_Fu`)
- I lead the remote sensing image analysis group in our lab. My research focus on deep learning based remote sensing image classification, object detection, and semantic segmentation on high performance platform.

Imperial College London *London, UK*

JOINT PH.D. IN DEPARTMENT OF COMPUTING *Nov. 2016 - Nov. 2017*

- Supervisor: Prof. Wayne Luk (`https://www.doc.ic.ac.uk/~wl/`)
- Topic: FPGA-based real-time remote sensing image processing

Sun Yat-sen University *Guangdong, China*

B.S. IN DEPARTMENT OF COMPUTER SCIENCE *Sep. 2010 - Jun. 2014*

Work Experience

Sun Yat-sen University *Guangdong, China*

SCHOOL OF GEOSPATIAL ENGINEERING AND SCIENCE *Nov. 2021 - Present*

- Associate Professor at School of Geospatial Engineering and Science, Sun Yat-Sen University. (`http://sges.sysu.edu.cn/`).

The Chinese University of Hong Kong *Hong Kong, China*

DEPARTMENT OF INFORMATION ENGINEERING *Nov. 2019 - Nov. 2021*

- Postdoc Researcher at the CUHK-Senstime Joint Lab (MMLab, `http://mmlab.ie.cuhk.edu.hk/`), working with Prof. Dahua Lin.

Teaching and Academic Services

Teaching *SYSU*

In charge of the following courses *Sep. 2022 - Present*

- Data Structures and Algorithms (Theory + Laboratory)
- Computer Vision and Pattern Recognition (Laboratory)

Guest Editor *Remote Sensing*

Remote Sensing Journal *Jul. 2020 - Present*

- Special Issue on “Applications of Individual Tree Detection”
- Special Issue on “Deep Learning in Remote Sensing Application”

Reviewer

REVIEWER OF THE FOLLOWING SCI JOURNALS: *Jan. 2017 - Present*

- Remote Sensing of Environment, ISPRS P&RS, IEEE Transactions on Image Processing, IEEE TGRS, Remote Sensing, IEEE JSTARS, IJRS, etc.

Session Chair *IEEE*

IEEE INTERNATIONAL GEOSCIENCE AND REMOTE SENSING SYMPOSIUM *Jul. 2017*

- In charge of the session of road and traffic detection

Selected Awards

2017 **Scholarship,** National Scholarship for Graduate Student *China*

2016 **Scholarship,** Schlumberger Scholarship for Computing Earth Science *Schlumberger*

2013 **1st place,** IEEE/IBM International Smarter Planet Challenge *IEEE/IBM*

2011 **3th place,** Microsoft Kinect Pioneer *Microsoft*

Selected Publications

Papers on SCI journals:

[12] **Weijia Li**, Wenqian Zhao, Jinhua Yu, Juepeng Zheng*, Conghui He, Haohuan Fu*, and Dahua Lin. Joint semantic–geometric learning for polygonal building segmentation from high-resolution remote sensing images. ISPRS Journal of Photogrammetry and Remote Sensing. 2023, 201: 26-37. (IF: 12.7)

[11] Juepeng Zheng, Yi Zhao, Wenzhao Wu, Mengxuan Chen, **Weijia Li***, and Haohuan Fu*. Partial domain adaptation for scene classification from remote sensing imagery. IEEE Transactions on Geoscience and Remote Sensing. 2022, 61: 1-17. (IF: 8.2)

[10] Juepeng Zheng, Haohuan Fu, **Weijia Li***, Wenzhao Wu, Le Yu, Shuai Yuan, et al. Growing status observation for oil palm trees using Unmanned Aerial Vehicle (UAV) images. ISPRS Journal of Photogrammetry and Remote Sensing. 2021, 173: 95-121. (IF: 12.7, **ESI highly cited paper**)

[9] **Weijia Li**, Runmin Dong, Haohuan Fu*, Jie Wang, Le Yu, and Peng Gong. Integrating Google Earth imagery with Landsat data to improve 30-m resolution land cover mapping. Remote Sensing of Environment. 2020, 237: 111563. (IF: 13.5)

[8] Juepeng Zheng, Haohuan Fu, **Weijia Li***, Wenzhao Wu, Yi Zhao, Runmin Dong, Le Yu. Cross-regional oil palm tree counting and detection via a multi-level attention domain adaptation network. ISPRS Journal of Photogrammetry and Remote Sensing. 2020, 167: 154-177. (IF: 12.7)

[7] Runmin Dong, **Weijia Li***, Haohuan Fu, Lin Gan, Le Yu, Juepeng Zheng, and Maocai Xia. Oil palm plantation mapping from high spatial-resolution remote sensing images using deep learning. International Journal of Remote Sensing. 2020, 41(5): 2022-2046. (IF: 3.4)

[6] **Weijia Li**, Conghui He, Haohuan Fu*, Juepeng Zheng, Runmin Dong, Maocai Xia, Le Yu and Wayne Luk. A Real-Time Tree Crown Detection Approach for Large-Scale Remote Sensing Images on FPGAs. Remote Sensing, 2019, 11(9): 1025. (IF: 5.0)

[5] **Weijia Li**, Conghui He, Jiarui Fang, Juepeng Zheng, Haohuan Fu* and Le Yu. Semantic Segmentation-Based Building Footprint Extraction Using Very High-Resolution Satellite Images and Multi-Source GIS Data. Remote Sensing, 2019, 11(4): 403. (IF: 5.0)

[4] **Weijia Li**, Runmin Dong, Haohuan Fu*, and Le Yu*. Large-Scale Oil Palm Tree Detection from High-Resolution Satellite Images Using Two-Stage Convolutional Neural Networks. Remote Sensing, 2019, 11(1): 11. (IF: 5.0)

[3] **Weijia Li**, Haohuan Fu*, Yang You, Le Yu, and Jiarui Fang. Parallel Multiclass Support Vector Machine for Remote Sensing Data Classification on Multicore and Many-Core Architectures. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2017, 10(10): 4387-4398. (IF: 5.5)

[2] **Weijia Li**, Haohuan Fu*, Le Yu, and Arthur Cracknell. Deep Learning Based Oil Palm Tree Detection and Counting for High-Resolution Remote Sensing Images. Remote Sensing, 2017, 9(1): 22. (IF: 5.0, **ESI highly cited paper**)

[1] **Weijia Li**, Haohuan Fu*, Le Yu, Peng Gong, Duole Feng, Congcong Li, and Nicholas Clinton. Stacked Autoencoder-based deep learning for remote-sensing image classification: a case study of African land-cover mapping. International Journal of Remote Sensing, 2016, 37(23): 5632-5646. (IF: 3.4)

Papers on TOP academic conferences:

[5] **Weijia Li**, Yawen Lai, Linning Xu, Yuanbo Xiangli, Jinhua Yu, Conghui He*, Gui-Song Xia*, and Dahua Lin. OmniCity: Omnipotent city understanding with multi-level and multi-view images. CVPR 2023. (CCF-A).

[4] Lin, Yiqi, Huabin Zheng, Huaping Zhong, Jinjing Zhu, **Weijia Li***, Conghui He, and Lin Wang*. SEPT: Towards Scalable and Efficient Visual Pre-Training. AAAI 2023. (CCF-A).

[3] **Weijia Li**, Lingxuan Meng, Jinwang Wang, Conghui He, Gui-Song Xia, and Dahua Lin. 3D Building Reconstruction from Monocular Remote Sensing Images. ICCV 2021. (CCF-A).

[2] Zhuoming Liu, Hao Ding, Huaping Zhong, **Weijia Li***, Jifeng Dai, and Conghui He. Influence Selection for Active Learning. ICCV 2021. (CCF-A).

[1] **Weijia Li**, Wenqian Zhao, Huaping Zhong, Conghui He, and Dahua Lin. Joint Semantic-Geometric Learning for Polygonal Building Segmentation. AAAI 2021. (CCF-A).

Other publications (EI, collaborative paper, etc.):

[10] Runmin Dong, Lixian Zhang, **Weijia Li**, Shuai Yuan, Lin Gan, Juepeng Zheng, Haohuan Fu*, Lichao Mou*, and Xiao Xiang Zhu*. "An adaptive image fusion method for Sentinel-2 images and high-resolution images with long-time intervals." International Journal of Applied Earth Observation and Geoinformation. 2023, 121: 103381. (SCI, IF: 7.5)

[9] Juepeng Zheng, Shuai Yuan, Wenzhao Wu, **Weijia Li**, Le Yu*, Haohuan Fu*, and David Coomes. Surveying coconut trees using high-resolution satellite imagery in remote atolls of the Pacific Ocean. Remote Sensing of Environment. 2023, 287: 113485. (SCI, IF: 13.5)

[8] Jinwang Wang, Lingxuan Meng, **Weijia Li**, Wen Yang*, Lei Yu, and Gui-Song Xia*. Learning to Extract Building Footprints from Off-Nadir Aerial Images. IEEE Transactions on Pattern Analysis and Machine Intelligence. 2022, (01), pp.1-1. (SCI, IF: 23.6)

[7] Juepeng Zheng, Wenzhao Wu, Shuai Yuan, Yi Zhao, **Weijia Li**, Lixian Zhang, Runmin Dong, and Haohuan Fu*. A Two-Stage Adaptation Network (TSAN) for Remote Sensing Scene Classification in Single-Source-Mixed-Multiple-Target Domain Adaptation (S^2M^2T DA) Scenarios . IEEE Transactions on Geoscience and Remote Sensing. 2021, 60. (SCI, IF: 8.2)

[6] Juepeng Zheng, Wenzhao Wu, Shuai Yuan, Haohuan Fu*, **Weijia Li**, and Le Yu. Multisource-Domain Generalization-Based Oil Palm Tree Detection Using Very-High-Resolution (VHR) Satellite Images. IEEE Geoscience and Remote Sensing Letters. 2021, 19: 1-5. (SCI, IF: 4.8)

[5] Lixian Zhang, Runmin Dong, Shuai Yuan, **Weijia Li**, Juepeng Zheng, and Haohuan Fu*. Making Low-Resolution Satellite Images Reborn: A Deep Learning Approach for Super-Resolution Building Extraction. Remote Sensing. 2021, 13(15): 2872. (SCI, IF: 5.0)

[4] Runmin Dong, Cong Li, Haohuan Fu*, Jie Wang, **Weijia Li**, Yi Yao, Lin Gan, Le Yu and Peng Gong*. Improving 3-m Resolution Land Cover Mapping through Efficient Learning from an Imperfect 10-m Resolution Map. Remote Sensing. 2020, 12(9): 1418. (SCI, IF: 5.0)

[3] **Weijia Li**, Conghui He, Jiarui Fang, and Haohuan Fu. Semantic Segmentation based Building Extraction Method using Multi-source GIS Map Datasets and Satellite Imagery. In IEEE Conference on Computer Vision and Pattern Recognition Workshops, pp. 18-22, 2018. (CVPRW 2018)

[2] **Weijia Li**, Conghui He, Haohuan Fu and Wayne Luk. An FPGA-based tree crown detection approach for remote sensing images. In IEEE International Conference on Field Programmable Technology, pp. 231-234, 2017. (FPT 2017)

[1] **Weijia Li**, Haohuan Fu, and Le Yu. Deep convolutional neural network based large-scale oil palm tree detection for high-resolution remote sensing images. IEEE International Geoscience and Remote Sensing Symposium, pp. 846-849, 2017. (IGARSS 2017)