

# Weijia Li

ASSOCIATE PROFESSOR, SCHOOL OF GEOSPATIAL ENGINEERING AND SCIENCE, SUN YAT-SEN UNIVERSITY

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## Education

### Tsinghua University

PH.D. IN DEPARTMENT OF EARTH SYSTEM SCIENCE

Beijing, China

Sep. 2014 - July 2019

- Supervisor: Prof. 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

JOINT PH.D. IN DEPARTMENT OF COMPUTING

London, UK

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

B.S. IN DEPARTMENT OF COMPUTER SCIENCE

Guangdong, China

Sep. 2010 - Jun. 2014

## Work Experience

### Sun Yat-sen University

SCHOOL OF GEOSPATIAL ENGINEERING AND SCIENCE

Guangdong, China

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

DEPARTMENT OF INFORMATION ENGINEERING

Hong Kong, China

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

### Guest Editor

REMOTE SENSING JOURNAL

Remote Sensing

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, IEEE Transactions on Image Processing, IEEE Transactions on Geoscience and Remote Sensing, Remote Sensing, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, International Journal of Remote Sensing, etc.

### Session Chair

IEEE INTERNATIONAL GEOSCIENCE AND REMOTE SENSING SYMPOSIUM

IEEE

Jul. 2017

- In charge of the session of road and traffic detection

### Teaching Assistant

COURSE OF GEOSCIENCE BIG DATA ANALYSIS

Tsinghua

Feb. 2018 - Jun. 2018

- In charge of preparing course assignments and participate in preparing course slides

## Selected Awards

- |      |   |              |
|------|---|--------------|
| 2017 | <b>Scholarship</b> , National Scholarship for Graduate Student            | China        |
| 2016 | <b>Scholarship</b> , Schlumberger Scholarship for Computing Earth Science | Schlumberger |
| 2013 | <b>1st place</b> , IEEE/IBM International Smarter Planet Challenge        | IEEE/IBM     |
| 2011 | <b>3th place</b> , Microsoft Kinect Pioneer                               | Microsoft    |

# Selected Publications

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## Papers on SCI journals:

- [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: 8.979, **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: 10.164)
- [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: 8.979)
- [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: 3.151)
- [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: 4.848)
- [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: 4.848)
- [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: 4.848)
- [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: 3.784)
- [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: 4.848, **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: 3.151)

## Papers on TOP academic conferences:

- [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.):

- [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: 5.6)
- [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: 3.966)
- [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: 4.848)
- [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: 4.848)
- [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)