Qingyu Li

Data Science in Earth Observation, Technical University of Munich, Munich, Germany
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EDUCATION

04/2019 – 11/2022 **Technical University of Munich, Germany**
Ph.D. degree, Supervisor: Prof. Xiaoxiang Zhu
Thesis: Deep learning for building footprint generation from optical imagery.

09/2015 – 11/2018 **Technical University of Munich, Germany & Wuhan University, China**
Double Master degree in Earth Space Oriented Space Science and Technology & Photogrammetry and Remote Sensing
Thesis: Building footprint generation using deep learning methods
Honors: passed with distinction

09/2011 – 06/2015 ***Wuhan University, China***
Bachelor degree in Remote Sensing Science and Technology
Thesis: Integrating multiple textural features for remote sensing image change detection
Honors: passed with high distinction

PROFESSIONAL APPOINTMENTS

11/2022 – Now **Postdoctoral researcher**
Data Science in Earth Observation, Technical University of Munich, Germany
- Exploration of earth observation through different case studies and using AI and innovative modeling technologies, “Earth Care” project (TUM Innovation Networks)

04/2019 – 11/2022 **Research Associate**
Data Science in Earth Observation, Technical University of Munich, Germany
- Development of frameworks for global building footprint generation, “So2Sat” project (European Research Council)
- Development of frameworks for undocumented building detection, "Investigation of building cases using AI" project, (Bavarian Agency for Digitization, High-Speed Internet and Surveying)

TEACHING EXPERIENCE

10/2021 - 03/2022
10/2019 - 03/2020 *Technical University of Munich,Germany*
Remote Sensing Seminar - TA
Teaching students to do research projects

LANGUAGE

Chinese, English, German

SELECTED AWARDS

10/2020 Geodesy Award of German Association for Geodesy, Geoinformation, and Land Management

SELECTED PUBLICATIONS

[1] Li, Qingyu, Sebastian Krapf, Yilei Shi, and Xiao Xiang Zhu. " SolarNet: A convolutional neural network-based framework for rooftop solar potential estimation from aerial imagery." **International Journal of Applied Earth Observation and Geoinformation** 116 (2023): 103098. **(Impact Factor=7.672)**

[2] Li, Qingyu, Hannes Taubenböck, Yilei Shi, Stefan Auer, Robert Roschlaub, Clemens Glock, Anna Kruspe, and Xiao Xiang Zhu. "Identification of undocumented buildings in cadastral data using remote sensing: Construction period, morphology, and landscape." **International Journal of Applied Earth Observation and Geoinformation** 112 (2022): 102909. **(Impact Factor=7.672)**

[3] Li, Qingyu, Yilei Shi, and Xiao Xiang Zhu. "Semi-supervised building footprint generation with feature and output consistency training." **IEEE Transactions on Geoscience and Remote Sensing** (2022). **(Impact Factor=8.125)**

[4] Li, Qingyu, Lichao Mou, Yuansheng Hua, Yilei Shi, and Xiao Xiang Zhu. "CrossGeoNet: A Framework for Building Footprint Generation of Label-Scarce Geographical Regions." **International Journal of Applied Earth Observation and Geoinformation** 111 (2022): 102824. **(Impact Factor=7.672)**

[5] Li, Qingyu, Stefano Zorzi, Yilei Shi, Friedrich Fraundorfer, and Xiao Xiang Zhu. "RegGAN: An End-to-End Network for Building Footprint Generation with Boundary Regularization." **Remote Sensing** 14, no. 8 (2022): 1835. **(Impact Factor=5.349)**

[6] Li, Qingyu, Lichao Mou, Yuansheng Hua, Yilei Shi, and Xiao Xiang Zhu. "Building footprint generation through convolutional neural networks with attraction field representation." **IEEE Transactions on Geoscience and Remote Sensing** 60 (2021): 1-17. **(Impact Factor=8.125)**

[7] Li, Qingyu, Yilei Shi, Stefan Auer, Robert Roschlaub, Karin Möst, Michael Schmitt, Clemens Glock, and Xiaoxiang Zhu. "Detection of Undocumented Building Constructions from Official Geodata Using a Convolutional Neural Network." **Remote Sensing** 12, no. 21 (2020): 3537. **(Impact Factor=5.349)**

[8] Li, Qingyu, Yilei Shi, Xin Huang, and Xiao Xiang Zhu. "Building footprint generation by integrating convolution neural network with feature pairwise conditional random field (FPCRF)." **IEEE Transactions on Geoscience and Remote Sensing** 58, no. 11 (2020): 7502-7519. **(Impact Factor=8.125)**

[9] Li, Qingyu, Chunping Qiu, Lei Ma, Michael Schmitt, and Xiao Xiang Zhu. "Mapping the land cover of Africa at 10 m resolution from multi-source remote sensing data with Google Earth Engine." **Remote Sensing** 12, no. 4 (2020): 602. **(Impact Factor=5.349)**

[10] Li, Qingyu, Xin Huang, Dawei Wen, and Hui Liu. "Integrating multiple textural features for remote sensing image change detection." **Photogrammetric Engineering & Remote Sensing** 83, no. 2 (2017): 109-121. **(Impact Factor=1.083)**

TALKS

07/2022	"Feature and Output Consistency Training for Semi-supervised Building Footprint Generation." Oral presentation in 2022 IEEE International Geoscience and Remote Sensing Symposium.
07/2021	"End-to-End Semantic Segmentation and Boundary Regularization of Buildings from Satellite Imagery." Oral presentation in 2021 IEEE International Geoscience and Remote Sensing Symposium.
09/2020	"Instance Segmentation of Buildings Using Keypoints." Oral presentation in 2020 IEEE International Geoscience and Remote Sensing Symposium.
09/2020	"Detection of Undocumented Buildings using Convolutional Neural Network and Official Geodata." Oral presentation in 2020 XXIVth ISPRS Congress.

SERVICE & LEADERSHIP

- **Session chair** for (1) 2022 IEEE International Geoscience and Remote Sensing Symposium – WE3.O1: Image Segmentation and Mapping; (2) 2021 IEEE International Geoscience and Remote Sensing Symposium – WE1.O.3: Advanced Segmentation and Land Cover Methods for Optical Data
- **Reviewer** for Scholarly Journals:
  IEEE Transactions on Geoscience and Remote Sensing, International Journal of Applied Earth Observation and Geoinformation, ISPRS Journal of Photogrammetry and Remote Sensing, Remote Sensing, Photogrammetric Engineering & Remote Sensing, IEEE Geoscience and Remote Sensing Letters