Junxiong Zhou

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EDUCATION

University of Minnesota Twin Cities, Department of Bioproducts and Biosystems Engineering Saint Paul, USA

PhD student, Agriculture engineering Sep 2021 – Present

- GPA: 3.98 / 4.0

Beijing Normal University, Faculty of Geographical Science Beijing, China

Msc, Cartography and Geography Information System Sep 2018 – Jun 2021

- GPA: 3.7 / 4.0
- Outstanding graduate
- Second prize of graduate students' scholarship recipient

China University of Geosciences, Faculty of Information Engineering Wuhan, China

BEng, Remote Sensing Science and Technology Sep 2014 – Jun 2018

- GPA: 3.84 / 4.0 (rank 1/60)
- Outstanding graduate
- Meritorious Winner of Interdisciplinary Contest in Modeling (ICM) Contest
- National Scholarship recipient
- National Scholarship for Encouragement recipient

PUBLICATIONS

- **Zhou, J.,** Yang, Q., Liu L., Kang, Y., Jia, X., Chen, M., … & Jin, Z. (2023). A deep transfer learning framework for mapping high spatiotemporal resolution LAI. ISPRS Journal of Photogrammetry and Remote Sensing, 206, 30-48.
- Yang, Q., Liu, L., **Zhou, J.**, Ghosh, R., Peng, B., Guan, K., ... & Jin, Z. (2023). A flexible and efficient knowledge-guided machine learning data assimilation (KGML-DA) framework for agroecosystem prediction in the US Midwest. Remote Sensing of Environment, 299, 113880.
- Yin, L., Ghosh, R., Lin, C., Hale, D., Weigl, C., Obarowski, J., **Zhou, J.**, ... & Jin, Z. (2023). Mapping smallholder cashew plantations to inform sustainable tree crop expansion in Benin. Remote Sensing of Environment, 295, 113695.
- Bai, Y., Li, S., **Zhou, J.**, Liu, M., & Guo, Q. (2023). Revisiting vegetation activity of Mongolian Plateau using multiple remote sensing datasets. Agricultural and Forest Meteorology, 341, 109649.
- Hu, Y., **Zhou, J.**, Deng, J., Li, Y., Yang, C., & Li, D. (2023). River Bars and Vegetation Dynamics in Response to Upstream Damming: A Case Study of the Middle Yangtze River. Remote Sensing, 15(9), 2324.
- Hu, Y., Li, D., Deng, J., Yue, Y., **Zhou, J.**, Chai, Y., & Li, Y. (2022). Mechanisms Controlling Water-Level Variations in the Middle Yangtze River Following the Operation of the Three Gorges Dam. Water Resources Research, 58(10), e2022WR032338.

- Zhu, X., Zhan, W., **Zhou, J.**, Chen, X., Liang, Z., Xu, S., & Chen, J. (2022). A novel framework to assess all-round performances of spatiotemporal fusion models. Remote Sensing of Environment, 274, 113002.
- Liu, S., **Zhou, J.**, Qiu, Y., Chen, J., Zhu, X., & Chen, H. (2022). The FIRST model: Spatiotemporal fusion incorporating spectral information autocorrelation. Remote sensing of Environment, 279, 113111.
- Zhou, X., **Zhou, J.**, Xie, Q., Zhang, Z., Chen, Q., & Liu, X. (2022). Detection of Soil Freeze/Thaw States at a High Spatial Resolution in Qinghai-Tibet Engineering Corridor. IEEE Geoscience and Remote Sensing Letters, 19, 1-5.
- **Zhou, J.**, Chen, J., Chen, X., Zhu, X., Qiu, Y., Song, H., ... & Cui, X. (2021). Sensitivity of six typical spatiotemporal fusion methods to different influential factors: a comparative study for a normalized difference vegetation index time series reconstruction. Remote Sensing of Environment, 252, 112130.
- **Zhou, J.**, Qiu, Y., Chen, J., Chen, X. (2021). A geometric misregistration resistant data fusion approach for adding red-edge (RE) and short-wave infrared (SWIR) bands to high spatial resolution imagery. Science of Remote Sensing, 4, 100033.
- Qiu, Y., **Zhou, J.**, Chen, J., & Chen, X. (2021). Spatiotemporal fusion method to simultaneously generate full-length normalized difference vegetation index time series (SSFIT). International Journal of Applied Earth Observation and Geoinformation, 100, 102333.
- Cui, X., Quan, Z., Chen, X., Zhang, Z., **Zhou, J.**, Liu, X., ... & Guo, L. (2021). GPR-based automatic identification of root zones of influence using HDBSCAN. Remote Sensing, 13(6), 1227.

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RESEARCH EXPERIENCE

Graduate Researcher, University of Minnesota Twin Cities Sep 2021 – Present

- Developed a 4D crop growth model for maize
- Collected drone imagery and leaf area index field measurements during the summer in 2023
- Developed a model for mapping high spatiotemporal satellite leaf area index products
- Explored interactions between rotation effects and climates in the US Midwest
- Processed satellite data for olives mapping in Morocco

Poster presenter in American Geophysical Union Fall meeting in San Francisco, USA Dec 2023

- Made a poster presentation on the research of "A digital twin of agriculture: modeling 3D maize structures at a landscape scale".

Poster presenter in American Geophysical Union Fall meeting in Chicago, USA Dec 2022

- Made a poster presentation on the research of "An Interpretative Representation Learning Framework for Generating High Spatiotemporal Resolution Leaf Area Index of Croplands".

Journal Reviewer Sep 2022 - Present

- Reviewed research papers for several academic journals: International Journal of Applied Earth Observation and Geoinformation, International Journal of Digital Earth, Agronomy Journal, and Scientific Reports.

Graduate Researcher, Beijing Normal University Sep 2017 – Jun 2021

- Developed several algorithms for producing high spatiotemporal satellite images

- Proposed a framework for assessing spatiotemporal fusion methods
- Evaluated the sensitivity of current spatiotemporal fusion methods to different error sources
- Developed a spatial-spectral fusion algorithm for producing satellite imagery at both high spatial and spectral resolutions
- Analyzed the impacts of topography on satellite-based vegetation index products

Oral presenter in IEEE International Geoscience and Remote Sensing Symposium in Yokohama, Japan Aug 2019

- Made an oral presentation on the research of "Analysis of topographic effects on vegetation indices".

ADDITIONAL EXPERINCE

Teaching Assistant, Beijing Normal University 2020

- Worked as teaching assistant for two graduate courses
- Advised 20 students on course material, and field experiment
- Assisted faculty with administrative tasks and curriculum development

SKILLS & INTERESTS

Languages: Mandarin (native), English

Computer: Proficient in programming with C++, Matlab**,** Python, IDL, C++, and Javascript (Google Earth Engine); using ENVI, ArcGIS, Microsoft office

Interests: Certified computer and software technology engineer; badminton, city biking, and video games