



Kai Ren

GIS & RS · AGRICULTURE · CLIMATE CHANGE · GEOSPATIAL INTELLIGENCE · SOFTWARE DEVELOPMENT

Curtin University, Perth, Australia

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"You have to believe in yourself. That's the secret of success."

Summary

Kai Ren is a Visiting Research Associate at Curtin University and a Ph.D. Candidate at Northwest A&F University. Dedicated to advancing knowledge in GIS and Agriculture through rigorous research and academic inquiry. Passionate about GIS · RS · Agriculture · Climate Change · Geospatial Intelligence and wanna to be an academic excellence.

Education

Curtin University

RESEARCH ASSOCIATE IN GEOSPATIAL ANALYSIS AND SUSTAINABILITY

• School of Design and the Built Environment · Curtin Geospatial Intelligence Lab

Perth, Australia

Mar. 2023 - Dec. 2024

Northwest A&F University

PH.D. STUDENT IN LAND RESOURCES AND SPATIAL INFORMATION TECHNOLOGY

• College of Natural Resources and Environment · State Key Laboratory of Soil Erosion and Dryland Farming on the Loess Plateau, Institute of Water and Soil Conservation

Yangling, China

Sep. 2020 - Dec. 2024

Nanjing Normal University

M.S. IN CARTOGRAPHY AND GEOGRAPHIC INFORMATION SYSTEM (GIS)

• College of Geographic Sciences · Key Laboratory of Virtual Geographic Environment Ministry of Education (VGE)

Nanjing, China

Sep. 2016 - Jun. 2019

Northwest A&F University

B.S. IN GEOGRAPHIC INFORMATION SYSTEM (GIS)

• College of Natural Resources and Environment

Yangling, China

Sep. 2012 - Jun. 2016

Skills

Programming	R, Python, Java, LaTeX, C, C#, C++, SQL, and Machine Learning (Random Forest, Decision Tree, Neural Networks etc.)
Software	Google Earth Engine (GEE), ArcGIS Pro, Erdas, ENVI, Illustrator, Eclipse, IntelliJ IDEA, Pycharm, Photoshop
Back-end	Java, Spring Boot, Struts - Spring - Hibernate, Flask
Front-end	HTML - CSS - JS, Vue
Languages	English, Mandarin

Presentations

GIS Workshop

GAVE A PRESENTATION <SHARING TOOLS AND TECHNIQUES IN DATA VISUALIZATION>

• Introduce and teach the scientific drawing tool Adobe Illustrator and the use of LaTeX tools, and introduce how to build social media matrix.

Perth, Australia

Dec. 2023

6th City+ International Conference (City+@Perth)

PRESENTATION ON THE CONFERENCE DURING SESSION 5 WITH THE THEME OF SPATIAL METHODS.

• Using an integration of machine learning and spatial stratified heterogeneity methods to investigate the spatial disparities and determinants of wheat production in Australia.

Perth, Australia

Sep. 2023

Publications

- **Author:** Identifying Climate and Environmental Determinants of Spatial Disparities in Wheat Production Using a Geospatial Machine Learning Model. *Computers and Electronics in Agriculture*. (Under review)
- **Co-author:** Yang, L., Luo, P., Zhang, Z., Song, Y., **Ren, K.**, Zhang, C., Awange, J., Atkinson, P.M. and Meng, L., 2024. A spatio-temporal unmixing with heterogeneity model for the identification of remotely sensed MODIS aerosols: Exemplified by the case of Africa. *International Journal of Applied Earth Observation and Geoinformation*, 132, p.104068. [url](#)
- Zhang, X., Song, Y., Dewan, A., Guo, Z., Cao, X., Bie, Q., Xie, Y., Ma, X., **Ren, K.**, Zhang, H. and Xi, G., 2024. Ecological influence of oasisation on peripheral regions. *International Journal of Applied Earth Observation and Geoinformation*, 132, p.104004. [url](#)
- **Conference:** **Ren, K.** & Song, Y. (2023). Local spatial heterogeneity of Wheat Yields in Western Australia. In *Proceedings of City+2023@Perth International Conference on Geospatial Big Data and Artificial Intelligence for Cities*. Perth, Curtin University.
- **Software Copyright:** Structural Surface Recognition and Intelligent Analysis System of Layered Geological Body. (No. 2019SR0706808)
- **Software Copyright:** Dianchi Lake Water Body Cyanobacteria Bloom Drift Simulation System. (No. 2018SR955442)

- **Software Copyright:** Simulation System of Total Suspended Solids in Large Water Bodies. (No. 2018SR798096)
- **Software Copyright:** Hydrogeological Modeling and Simulation System. (No. 2017SR427979)
- **Software Copyright:** 3D Modeling and Analysis System of Underground Space. (No. 2017SR431955)
- **Software Copyright:** Multi-Dimensional Grid Adaptive Generation System For Geoscience Simulation. (No. 2017SR374939)
- **Software Copyright:** Dynamic Visualization System For Geoscience Model Simulation. (No. 2017SR374929)

Peer Review

- International Journal of Applied Earth Observation and Geoinformation (IF 7.5)
- Resources, Conservation and Recycling (IF 13.2)
- Journal of Spatial Science (IF 1.9)

Experience

ISPRS Technical Commission IV Symposium 2024

CONFERENCE STAFF

- Assist in the management and organization of the Conference.

Perth, Australia

22 -25 Oct. 2024

The 10th International Conference on Innovative Production and Construction (IPC 2024)

ORGANIZER AND CONFERENCE STAFF

- Participate in organizing conferences and manage the official website.

Perth, Australia

11 & 12 Jul. 2024

City+2023@Perth International Conference

ORGANIZER AND CONFERENCE STAFF

- Participate in organizing the conference, conducting media publicity work for the conference, managing submissions, taking photos during the conference, and issuing conference certificates.

Perth, Australia

8 - 10 Sep. 2023

GISphere

COMMUNITY VOLUNTEER

- Organize and edit GISInfo Study Abroad Guide, operate the official Wechat account and study abroad Wechat group for study abroad infos.

Perth, Australia

Dec. 2022 - Present

Activities

Visited Rio Tinto (the world's Top 2 largest metals and mining corporation)

ATTENDEE

Perth, Australia

Feb. 2024

Australian-French Association for Research and Innovation (AFRAN) Forum

ATTENDEE

Perth, Australia

26 & 27 Oct. 2023

Vicarious calibration of the NASA PACE mission: deployment of the MarONet (Marine Optical Network) off Perth

ATTENDEE

Perth, Australia

20 Oct. 2023

Precision Agriculture meeting at Centre for Crop and Disease Management, Curtin University

ATTENDEE

Perth, Australia

6 Sep. 2023

Project exchange meeting at Main Roads Western Australia

ATTENDEE

Perth, Australia

Mar. 2023

Honors & Awards

2023	International Conference Committee Member , One of the Organizers of an International Academic Conference, City+2023@Perth, with the theme of Geospatial Big Data and Artificial Intelligence for Cities	Perth, Australia
2022	Bronze Award (Provincial Level) , in the 11 th Challenger Cup Shaanxi University Student Entrepreneurship Plan Competition	Xi'an, China
2022	Silver Award , in the 10 th Challenge Cup College Student Entrepreneurship Plan Competition of Northwest A&F University	Yangling, China
2016	Outstanding Graduate , Nanjing Normal University	Nanjing, China
2018	Excellent Postgraduate (Four times) , Nanjing Normal University	Nanjing, China
2017	First-class scholarship (Two times) , Nanjing Normal University	Nanjing, China
2016	Deputy League Secretary , Served as the Deputy League Secretary of the Class	Nanjing, China
2016	Outstanding Undergraduate Thesis , Northwest A&F University	Yangling, China
2015	Excellence Award , Organize the pastoral envoy team of Northwest A&F University and won the "Excellent Award" at the university level	Yangling, China
2015	Excellence Award , The National Science and Technology Innovation Project Numerical Simulation and Mechanism Research of Loess Slope Cultivated Land Microtopography	Yangling, China
2014	Excellent League Member , Northwest A&F University	Yangling, China

2014	Social Practice Model , Northwest A&F University	<i>Yangling, China</i>
2014	Excellent Award , Organize the activity of Three Visits to the Countryside, Investigation Service in Ansai Comprehensive Test Station of Soil and Water Conservation, and won the Excellent Award at the school level	<i>Yangling, China</i>