



# 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

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

### 6<sup>th</sup> 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. International Journal of Applied Earth Observation and Geoinformation. (Under review)
- **Co-author:** Ecological influence of oasisization on adjacent regions. International Journal of Applied Earth Observation and Geoinformation. (In revised)
- **Co-author:** A spatio-temporal unmixing with heterogeneity model for the identification of remotely sensed MODIS aerosols: Exemplified by the case of Africa. Environmental Pollution. (Under review)
- **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 10<sup>th</sup> 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	<b>International Conference Committee Member</b> , 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	<b>Bronze Award (Provincial Level)</b> , in the 11 <sup>th</sup> Challenger Cup Shaanxi University Student Entrepreneurship Plan Competition	Xi'an, China
2022	<b>Silver Award</b> , in the 10 <sup>th</sup> Challenge Cup College Student Entrepreneurship Plan Competition of Northwest A&F University	Yangling, China
2016	<b>Outstanding Graduate</b> , Nanjing Normal University	Nanjing, China
2018	<b>Excellent Postgraduate (Four times)</b> , Nanjing Normal University	Nanjing, China
2017	<b>First-class scholarship (Two times)</b> , Nanjing Normal University	Nanjing, China
2016	<b>Deputy League Secretary</b> , Served as the Deputy League Secretary of the Class	Nanjing, China
2016	<b>Outstanding Undergraduate Thesis</b> , Northwest A&F University	Yangling, China
2015	<b>Excellence Award</b> , Organize the pastoral envoy team of Northwest A&F University and won the "Excellent Award" at the university level	Yangling, China
2015	<b>Excellence Award</b> , The National Science and Technology Innovation Project Numerical Simulation and Mechanism Research of Loess Slope Cultivated Land Microtopography	Yangling, China
2014	<b>Excellent League Member</b> , Northwest A&F University	Yangling, China
2014	<b>Social Practice Model</b> , Northwest A&F University	Yangling, China
2014	<b>Excellent Award</b> , 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	Yangling, China