

Jinyi Cai

Ph.D. Student

Department of Geographical and Sustainability Sciences, University of Iowa

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RESEARCH INTERESTS

GIScience, Geovisualization, Social Vulnerability, Environmental Health.

EDUCATION

• Ph.D. in Geographic Information Science and Cartography	Sep. 2023 - Present
Department of Geographical and Sustainability Sciences, University of Iowa, Iowa City, IA, USA.	
• M.S. in Geospatial Information Science	2020
Department of Geographical Sciences, University of Maryland, College Park, USA.	
• B.S. in Physical Geography, Resource & Environment	2018
School of Geographical Science, Guangzhou University, Guangzhou, China	
• B.A. in English (dual degree)	2018
School of Foreign Studies, Guangzhou University, Guangzhou, China	

EMPLOYMENT

Teaching Assistant	Jan. 2024 – Present
Department of Geographical and Sustainability Sciences, University of Iowa, Iowa City, IA, USA. (GEOG 2050 Foundations of GIS - Spring 2024)	
Research Assistant	Aug. 2023 – Dec. 2023
Department of Geographical and Sustainability Sciences, University of Iowa, Iowa City, IA, USA.	
Research Assistant	Apr. 2023 – Aug. 2023
Institute of Space and Earth Information Science, The Chinese University of Hong Kong (CUHK), HK, China.	
GIS Developer	May. 2020 - Apr. 2023
Augur Intelligence Technology LTD, Guangzhou, Guangdong, China	

PUBLICATIONS

In Preparation

Cai, J., Koylu, C., Tate, E., Cwiertyny, D. (In preparation). Social Vulnerability and Health Impact of Well Nitrate Contamination Exposure in Iowa: An Interpretable Machine Learning Approach. *Regional Environmental Change*.

Peer-Reviewed Conference Proceedings

Cai, J., Kwan, M.-P., Hou, C., Liu, D., & Yam, Y. (2023). Curriculum Design of Artificial Intelligence and Sustainability in Secondary School. *I-GUIDE Forum*. <https://doi.org/10.5703/1288284317666>

CONFERENCE PRESENTATION

Cai, J., Koylu, C., Tate, E., Cwiertyny, D. (June 2024). Social Vulnerability and Health Impact of Well Nitrate Contamination Exposure in Iowa: An Interpretable Machine Learning Approach. CaGIS and UCGIS symposium, 2024, Columbus, OH.

Cai, J., Kwan, M.-P., Hou, C., Liu, D., & Yam, Y. (October 2023). Curriculum Design of Artificial Intelligence and Sustainability in Secondary School. I-GUIDE Forum, 2023, New York, NY.

HONORS & AWARD

Travel grant. Graduate College, the University of Iowa (\$2500)	Aug. 2023
Outstanding Employee Award, Augur Intelligence Technology LTD (\$280)	Jan. 2022
High-Level Talents 2021, Tianhe District, Guangzhou, Guangdong, China (\$7033)	Dec. 2021

College Scholarship (First-class, Second-class, third-class), Guangzhou University
Outstanding Student Award, Guangzhou University

Sep. 2015 - Jun. 2017
Sep. 2015

SERVICE TO THE PROFESSION

Science Core Heuristics for Open Science Outcomes in Learning (SCHOOL) Dec. 2023 – Present

- Participated as a member of the open science team to review and provide feedback for lesson materials aiming to provide open, interactive, and interdisciplinary learning modules for open science.
- Receive training and attend workshops for NASA Transform to Open Science (TOPS) projects.

CUHK Jockey Club AI for the Future Project – AI and Sustainability Apr. 2023 – Aug. 2023

- Designed curriculum materials for AI and Sustainability courses to engage secondary school teachers with advanced and comprehensive AI knowledge in Hong Kong.
- Developed hands-on curriculum tutorial for practical AI model training with Python.

SKILLS

Analytical Skills

Spatial Statistics, GIS-based Modeling, Web Mapping, interpretable Machine Learning, High-Performance Computing, Database Management Systems (DBMS).

PATENTS

Chen, M., Kong, X., Deng, M., **Cai, J.**, Liang, N., Huang, G. (2023). A Visualization Method and System for Big Data in Housing Risk Hazards (China. Patent No. CN116523378A) (pending)

Cai, J., Chen, S., Chen, M., Li, D., Su, J., Xie, Q., Deng, M. (2022). Construction and Display Method of BIM Model Based on LOD (China. Patent No. CN114283231A) (pending)