YANBING CHEN

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🎓 EDUCATION

University of Wisconsin – Madison, Wisconsin, United States Sep 2023 - Exp. May 2028

M.S. (2023-2025) and Ph.D. (2025-2028) in Cartography and Geographic Information Systems (4.0/4.0)

- Relevant Coursework: Advanced GIS, Spatial Analysis, Interactive Cartography, Data Visualization, Spatial Database

McGill University, Quebec, Canada Sep 2019 - May 2023

B.A. in Geography and Economics (3.81/4.0)

- Relevant Coursework: Advanced Geospatial Analysis, Geospatial Web, Geocomputing, Remote Sensing, Urban Geog

🛠 SKILLS

GIS and Mapping: ArcGIS (Pro, ArcMap, Online, StoryMaps) | QGIS | Mapbox | Google Earth | ENVI
Library: Network X | ArcPy | Geopandas | Geoplot | Plotly | D3 | Leaflet | Mapbox | NumPy | Pandas
Visual Analytics and Data Analysis: Python | R | CARTO | Tableau | PowerBI |Gephi | PostgreSQL
Programming: Python | JavaScript | HTML | CSS | XML |SQL | Net logo
Graphic Design: Adobe Illustrator | Photoshop | Figma | Canvas
Platforms &Frameworks: GitHub | Google Colab | WordPress | Jira

💻 WORK EXPERIENCE

GISphere Team Leader, GISphere, online Jun 2022 - Present

- Overseeing the **content management** for the GISphere Institution Guide, a comprehensive resource for GIS professionals and students, encompassing details on 500+ GIS graduate programs and 2000+ faculty
- Leveraging **LLM and Python web scraping** scripts to extract information on geography department worldwide

GIS Assistant, Geographic Information Center at McGill Sep 2022 - May 2023

- Hosted workshops on ArcPy and Mapbox, introduced participants to advanced techniques in spatial analysis
- Assisted students and researchers in effectively using ESRI products, including **ArcGIS Pro, ArcMap, and StoryMap**

🌐 RESEARCH & PROJECT EXPERIENCE

Research Assistant Jul 2024 - Present

Raster to Vector HeatMap: Multiscale Visualization Approach to Mapping with Big Geospatial Data

- Selecting different geospatial datasets (animal movement, human traffic, disaster distribution) for visualization
- Generating **multi-scale raster and vector tile sets** using Tippecanoe and Mapnik, optimized for different zoom levels
- Developing interactive web-based heatmaps using Mapbox GL JS and Leaflet for dynamic spatial data representation

Project Leader, Inter-lab Collaboration Project Aug 2022 - Present

Investigating Mobility and Research Themes through Faculty Hiring Network in GIScience

- Leading a team to collect comprehensive data on 946 tenure-track GIScience faculty from various institutions worldwide
- Utilizing Gephi to conduct network analysis and map faculty placements based on their graduate programs
- Using Python for data cleaning and generating **word clouds** to analyze research trends within 946 GIS graduate programs

Undergraduate Researcher, Roger Tomlinson Lab for GIScience at McGill May 2022 – Aug 2023

Animate and Visualize Historical Data with ArcGIS Pro, Net Logo, and Geovisualization tools

- Leveraged agent-based model and ArcGIS Pro to recreate possible ancient travelling routes
- Used Python to generate dynamic **space-time paths**, offering a unique perspective on historical agent movements

Project Leader, GEOG384 Principles of Geospatial Web at McGill Sep 2022 – Dec 2022

Mobile Tracking Web App

- Designed a **user interface** and incorporated a tracking function that captures user location at 30-second intervals
- Achieved route visualization in Mapbox and added a **space-time cube representation** via Plotly

📑 PUBLICATIONS

- **Chen Y.,** Nelson J., Zhou B., Kang Y. (2024) (Submitted). Where are GIScience Faculty Hired? Analyzing Faculty Mobility and Research Themes Through Hiring Networks.
- Kang, Y., Wang, Y., Zhang, J., Liu, H., Rao, J., Liu, Y., Zhou, B., Chen, P., **Chen, Y.**, Tong, X., & Ye, S. (2023). GISphere: A Crowd-Sourced Database of Global GIS Graduate Education. *CPGIS 2023 short paper.*
- Sengupta, R., Vankeerberghen, G., Wen, R., Rao, J., **Chen, Y.** (2023). GIS-enabled historiography to determine travel routes during the Western Han period via agent-based models and least-cost path analysis. *Transactions in GIS, 27(4), 1090–1103.*

🗺️ MAP GALLERY

- [Power BI] *"Wisconsin Car Crash Dashboard"* – An Interactive Dashboard Map showing traffic accidents in Wisconsin.
- [Figma | Leaflet] *"Forgotten Tongues: Interactive Atlas of Extinct Languages"* – Mapping 3000 dying languages.
- [Mapbox GL JS] *"A historical storymap for California Gold Rush"* – Story Map about history of Chinese immigrant in U.S.
- [ArcGIS Pro | AI] "*To Incarcerate or to Educate?*" - Cost of inmates in U.S. states with their spending on education.
- [ArcGIS Pro | AI] "*Just Another Day in America*" - The Map designed for UW-Cartography Lab 2024 Map Challenge.
- [ArcGIS Pro | AI] "*Behind Bars*" - A map showcasing a comparison of incarceration rates across U.S. states.
- [ArcGIS Pro | AI] "*Vermont Trails*" - A Vermont Hiking Guide.
- [ArcMap] "*Chinese Restaurants in Barbados*" - The Map designed for Project: Chinese Immigrants in Barbados.

🎙️ CONFERENCE AND PRESENTATIONS

- Raster-to-Vector Heat Maps: Multiscale Visualization Approach to Mapping with Big Geospatial Data (*NACIS 2024)*
- Investigating Mobility and Research Themes through Faculty Hiring Network in GIScience*(UCGIS symposium 2024)*
- Facilitating Global Connections in Geographic Information Science Education, Research, and Practice (*AAG 2024)*
- Digital Cartography and Historical Insights: Mapping a New Course for the Past in the Digital Age (*AAG 2024)*
- Academic Recruiting in GIScience: Demographics, Mobility and Hierarchy (*SKI Conference Canada 2023)*
- Mobile Tracker of Volunteered Geographic Information; Using Story Map as Visual Storytelling (*McGill GIS Day 2022)*

🏅 GRANTS & AWARDS

- UW-Madison Digital Salon 2024, Map Admitted
- 2024 Graduate Student 1st Place Petchenik Map Competition
- 2024 CAGIS Rising Award, The Cartography and Geographic Information Society
  Kang Y., **Chen Y.,** Zhou B., Gu Z. Characterizing and Promoting Cartography and GIS Graduate Programs through Research Theme Discovery and Online Seminars

💰 SCHOLARSHIPS

- 2024 Master's Student Research Grant, AAG Cartography Special Group
- 2024 Travel Grant, NACIS
- 2024 Scholarship for CaGIS & UCGIS Symposium, International Cartographic Association
- 2024 Trewartha Conference Travel Awards, University of Wisconsin – Madison
- 2023 University Graduate Fellowship, University of Wisconsin – Madison
- 2022 Dean's Honour List, Arts Research Internship Awards, Arts Undergraduate Awards, McGill University