Updated by Jan 1st, 2022

Xiaofan Liang

Ph.D.
School of City and Regional Planning
Georgia Institute of Technology
Atlanta, GA, 30310

Phone: (415) 341 7890
Email: xiaofan.l@gatech.edu
GitHub: github.com/xiaofanliang

Education

- Ph.D. City and Regional Planning, Friendly Cities Lab, **Georgia Institute of Technology** 2019 – 2023.
  Major Advisor: Clio Andris. Minor Advisor: Chris LeDantec.
- Master of City and Regional Planning, **Georgia Institute of Technology** 2019-2023.
- B.S. Computational Science, **Minerva University** 2015-2019.
- B.A. Sociology, **University of California – Berkeley** 2013-2015.

Research Interests

- Spatial and social networks
- Urban analytics (GIS, machine learning, agent-based modeling)
- Digital civics, critical data, and engagement methods for spatial planning

Awards & Honors

- Georgia Tech Data Science Research Scholarship, The Institute of Data Engineering and Science, 2020
- 1st place in Georgia Tech Transportation and GIS Hackathon, 2019

Experience

Research

- **Georgia Tech – Friendly Cities Lab** 08.2019 - now
  Graduate Research Assistant Atlanta, GA
  See my work on our lab page friendlycities.gatech.edu.
- **Smart Communities Corps Program** 05.2021 - 08.2021
  Graduate Research Assistant Savannah, GA
  Worked with the City of Savannah to develop machine learning models to identify vacant, abandoned, and disinvested properties with community engagement.
- **Chinese Academy of Science** 07.2019 - 08.2019
  Research Assistant Beijing, China

Visualized capital investment networks in China. Advised by Dr. Jianghao Wang.

- **Santa Fe Institute** 06.2017 - 12.2018
  Research Experience for Undergraduates Santa Fe, NM
  Researched scaling properties of Universities in U.S. through power law statistics.
- **Icosystem** 05.2016 - 07.2016
  Research Intern Remote
  Built agent-based models in NetLogo to run simulations and drove understanding of gender inequality in business organizations. Findings featured in Forbes.

Industry

- **Youth Global Network – Project C** 01.2018 – 05.2018
  Software Development Intern Hong Kong, China
  Supported the building of a ReactJS new frontend of MIT AppInventor and taught programming classes to underserved youth in Hong Kong and Shenzhen.
- **1kg Box** 05.2014 – 08.2014
  Product Design Assistant Guangzhou, China
  Designed course materials for rural teachers through human centered design process which includes interviews for feedbacks, organized workshops, and rapid prototyping.

Publications

- **Xiaofan Liang,** Yuhao Kang (2021). A Review of Spatial Network Insights and Methods in the Context of Planning: Applications, Challenges, and Opportunities (Book Chapter). *Urban Informatics and Future Cities. Springer Nature. Eds. Chris Pettit, Robert Goodspeed, Aija Staffans*
- **Xiaofan Liang**, Clio Andris (2021). Measuring McCities: Landscapes of Chain and Independent Restaurants in the United States. *Environment and Planning B: Urban Analytics and City Science, 23998083211014896.*
- Ryan Taylor*, **Xiaofan Liang***, Chris Kempes, Marion Dumas, Geoffrey West, Manfred Laubichler (2021). Systematic shifts in scaling behavior based on organizational strategy in universities. *PLOS one, 16(10), e0254582*. (*equal contributions)
- (Submitted) **Xiaofan Liang**, Seolha Lee, Hanzhou Chen, Benjamin de la Pena, Clio Andris (2021). Demographic Characteristics of Locals and Jetsetters: A Study of Extensibility Using the Neighborhood Connectivity Survey. *Journal of Social Inclusion*.

Presentations

- "Spatial Social Network (SSN) Hot Spot Detection: Scan Methods for Non-Planar Networks". The Annual Conference of American Association of Geographers (AAG). In-person. February 26, 2022.

- "Detecting Vacant, Abandoned, and Disinvested (VAD) Properties in Savannah, Georgia using Human-in-the-loop Machine Learning". Annual Conference of Association of Collegiate Schools of Planning (ACSP). Virtual. October 23rd, 2021.
- "A Review of Spatial Network Insights and Methods in the Context of Planning: Applications, Challenges, and Opportunities". The 17th International Conference on CUPUM – Computational Urban Planning and Urban Management. Virtual. June 10th, 2021.
- "Patterns of Chain and Independent Restaurants in U.S. Cities". GaTech College of Design Virtual Research Symposium on Point of Interest. Virtual. April 30th, 2021.
- "Demographic and Behavioral Characteristics of Individuals with Global, Local, or Glocal Connectivity Patterns". North American Regional Science Conference (NARSC). Virtual. November 10th, 2020.
- "A R Online Tutorial for Visualizing Spatial Social Networks". MoVis: Information Visualization of Geospatial Networks, Flows, and Movements Workshop at IEEE VIS. Virtual. October 26th, 2020.
- "Explaining Urban Scaling, Variances, and Economic Structure with Multiplex Networks in China". Invited Talk at MIT Sustainable Urbanization Lab Internal Seminar. Virtual. October 7th, 2020.
- "Measuring McCities: Quantifying 'Chainness' of Foodscape in the United States". The Annual Conference of American Association of Geographers. Virtual. April 12th, 2020.

Work in Progress

- **Xiaofan Liang,** Clio Andris, Brian Brainerd. *Detecting Vacant, Abandoned, and Disinvested Properties in Savannah using Human-in-the-Loop Machine Learning*.
- **Xiaofan Liang,** Clio Andris. *Quantifying Impacts of Demolishment on Place Attachment: Crowd-sourced Spatial Social Networks on Participatory GIS Platform as Evidence to Preserve Historic Miaoqianzhi 'jie' in Guangzhou, China*.
- **Xiaofan Liang**, Clio Andris. *An R tutorial for integrated spatial social network analysis*.
- **Xiaofan Liang,** Jianghao Wang, Cesar Hidalgo, Pierre Balland, Siqi Zheng. *Uncoupling connectivity and population at explaining city scaling*.
- **Xiaofan Liang**, Perry Yang. Who benefits from PRT? An integrated connectivity-design-and-modeling approach for Atlanta Airport.
- Zhifeng Cheng, Jianghao Wang, **Xiaofan Liang,** Yong Ge, Luoyi Fu, Xinbin Wang, Chenghu Zhou. *The impacts of COVID-19 pandemic on global scientific collaboration*.

Mentoring

Master Students

- Lu Chen (City and Regional Planning Master student)

Undergraduate

- Brandon Noll (Undergrad majored in Computer Science)

Teaching

- Guest Lecturer, Geographically Weighted Regression, CP6521 Advanced GIS.
  Georgia Institute of Technology - Spring 2021
- Instructor, Computational Thinking through MIT App Inventor.
  Shenzhen Longgang Technical School – Spring 2018
- Instructor, Introduction to Python.
  United World College (UWC) Hong Kong – Spring 2018

Professional Activities and Services

Reviews

- Reviewed for Environmental Planning B: Urban Analytics and City Science, 2021.
- Reviewed for GIScience & Remote Sensing, 2021.
- Reviewed for Computational Urban Science, 2021.
- Reviewed for SAGE Open, 2021.

Services

- Founder of Miaoqianzhi 'jie' Research Group, an activist research team based in Guangzhou that promotes public discourse and conducts quantitative and qualitative research around Miaoqianzhi 'jie' (a historic street that is planned to be demolished to build an additional metro station). Oct 2020 – Now.
- Session Chair at 2022 Annual Conference of American Geographers (AAG): Advancing Spatial and Social Network in GIS. Feb 2022.
- Session Co-organizer at 2022 Annual Conference of American Geographers (AAG): Perspectives and Tensions in Urban Redevelopment. Feb 2022.
- Digital Participation & Diversity Chair at KDD 2021: Data-driven Humanitarian Mapping: Harnessing Human-Machine Intelligence for High-Stake Public Policy and Resilience Planning. Aug 2021.
- Student Representative at the Georgia Tech School of City and Regional Planning Chair Search Committee. Oct 2020 – Feb 2021.
- Student Ambassador for newly admitted students at the Georgia Tech School of City and Regional Planning. Mar 2021 - Apr 2021.
- Student Volunteer at KDD 2020: Data-driven Humanitarian Mapping: Harnessing Data and Human-Machine Intelligence for Actionable Policy Decisions. Aug 2020.