

# Xin Feng

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## Education

- Ph.D., Geography (Spatial analysis and modeling)** **2019**  
University of California, Santa Barbara, USA  
Dissertation: “Heterogeneity Impacts and Implications in Location and Allocation Processes”
- M.A., Geographical Sciences and Urban Planning** **2015**  
Arizona State University, USA
- M.S., Remote Sensing & GIS** **2013**  
Peking University, China  
Thesis: “Regression Analysis of Land Surface Temperature in Relation to Land Cover Change”
- B.S., Cartography and Geographical Information System** **2010**  
Wuhan University, China.  
Thesis: “Influence of Spatial Weight Matrices on Spatial Autocorrelation: A Cased Study of Hemorrhagic Fever with Renal Syndrome (HFRS) in China”

## Research Experience

- Postdoctoral Scholar** **2020-Present**
- Center for Geospatial Sciences, School of Public Policy, University of California, Riverside.
    - Developed models in pysal/spopt, an open source package focusing on spatial optimization in the Python Spatial Analysis Library.
- Research Assistant** **2016-2019**
- Department of Geography, University of California, Santa Barbara.
    - Formalized and implemented spatial optimization models to locate and allocate drone equipped stations for emergency response.
- Research Assistant** **2013-2015**
- School of Geographical Sciences and Urban Planning, Arizona State University
    - Evaluated existing street light system, formalized, and implemented optimization models to improve service of nighttime light.

## Teaching Experience

- Lab Lecturer / Guest Lecturer** **2016-2019**
- Department of Geography, University of California, Santa Barbara.
    - GEOG 185B Environmental Issues and Location Decision Making
    - GEOG 172 Intermediate Geographical Data Analysis
    - GEOG 190 Location Theory and Modeling
- Lab Lecturer / Guest Lecturer** **2013-2015**
- School of Geographical Sciences and Urban Planning, Arizona State University.
    - Master of Advanced Study in Geographic Information Systems (MAS-GIS) Program
      - GIS 601 Introduction to Geographic Information Systems
      - GIS 602 Intermediate GIS
      - GIS 603 Spatial Statistics and Modeling
    - GIS 205 Geographic Information Technologies

## Working Experience

**Insight Data Science** - Data Science Fellow, San Francisco, CA

**2019**

- Lead an end-to-end machine learning project for Snappr, a startup company offering an on-demand professional photography booking service.
- Generalized Facebook's Prophet, linear regression, and catboost regression models with additional feature engineering to predict peak marketplace demand based on Snappr's historical data (millions of events) from August 1st, 2016 to the present.
- Automated the pipeline of spatiotemporal forecasting and visualization of supply shortage using PostgreSQL and Python.

**Oak Ridge National Laboratory** - Data Science Intern, Oak Ridge, TN

**2018**

- Formalized optimization models to study supply-demand matching in world trade.
- Collected and pre-processed global import/export trade volume for 190+ countries between 1995 and 2017 from MIT OEC (Observatory of Economic Complexity) open data source.
- Implemented regression models using R to analyze the relationship between global tariff and US import/export trade value.

## Publications

### Refereed Articles and Proceedings

- 2020 **X. Feng**, S. Wang, A. Murray, Y. Cao, S. Gao. "MOTO: A multi-objective trajectory optimization method for finding sequential activity locations over space and time." *Environment and Planning B-Urban Analytics and City Science*, to appear.
- 2020 **X. Feng**, A. Murray. "Spatiotemporal Heterogeneous Allocation to Support Service Area Response." *Computers, Environment, and Urban Systems*, to appear.
- 2020 A. Murray, R. Church, **X. Feng**. "Single facility siting involving allocation decisions." *European Journal of Operational Research*, to appear.
- 2018 **X. Feng**, A. Murray. "Allocation Using a Heterogeneous Space Voronoi Diagram." *Journal of Geographical Systems*, 20(3), 207-226.
- 2018 A. Murray, **X. Feng**, Ali Shokoufandeh. "Heterogeneous Skeleton for Summarizing Continuously Distributed Demand in a Region." In *Proceedings of 10<sup>th</sup> International Conference on Geographic Information Science*, vol. 114.
- 2018 S. Wang, S. Gao, **X. Feng**, A. Murray, Y. Zeng. "A context-based geoprocessing framework to find optimal spatiotemporal meetup location on road networks for multiple moving objects." *International Journal of Geographical Information Science*, 32(7), 1368-1390.
- 2018 **X. Feng**, A. Murray. "Spatial analytics for enhancing street light coverage of public spaces." *LEUKOS*, 14(1): 13-23.
- 2016 A. Murray, **X. Feng**. "Public street lighting service standard assessment and achievement." *Socio-Economic Planning Sciences* 53: 14-22.
- 2016 **X. Feng**, S. Myint. "Exploring the effect of neighboring land cover pattern on land surface temperature of central building objects." *Building and Environment*, 95: 346-354.
- 2014 J. Song, S. Du, **X. Feng** and L. Guo. "The relationships between landscape compositions and land surface temperature: Quantifying their resolution sensitivity with spatial regression models." *Landscape and Urban Planning*, 123: 145-157.
- 2013 **X. Feng**, S. Du, F. Zhang and S. Wang. "Urban land classification of high-resolution images based on multi-scale fusion." *Journal of Geography and Geo-Information Science* 29(3): 43-47.
- 2011 **X. Feng**, S. Du, H. Shu. "The effect of spatial weight matrices on spatial autocorrelation - a case study of hemorrhagic fever with renal syndrome (HFRS) in China." *Geomatics and Information Science of Wuhan University*, 36(12): 1410-1413.

- 2011 **X. Feng**, S. Du, H. Shu. “Spatial regression analysis in hemorrhagic fever with renal syndrome (HFRS) in China.” *Proceedings of 2011 IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services*, 77-80.

*Publication in Progress*

**X. Feng**, A. Murray, R. Church. “Medical drone service response: spatiotemporal heterogeneity implications.” Submitted to *International Journal of Geographical Information Science* (09/21/19).

## Honors and Awards

- 2019 Excellence in Research Award, Department of Geography, University of California, Santa Barbara.
- 2019 2<sup>nd</sup> Place, Student Paper Competition, Geographic Information Science and Systems Specialty Group (GISS-SG), American Association of Geographers Annual Meeting, Washington, DC, April 3-7.
- 2018 Finalist (2<sup>nd</sup> Place), Tiebout Prize, Best Graduate Student Paper Award Western Regional Science Association 57<sup>th</sup> Annual Meeting, USA, February 11-14.
- 2016-2018 Dangermond Travel Grant, Department of Geography, UCSB. (Winter 2018, Spring 2018, Spring 2017, Fall 2017, Fall 2016)
- 2014 Lounsbury Student Travel Fellowship, Arizona State University.
- 2013 Second Prize Scholarship, Peking University, China.
- 2012 Wusi Individual Scholarship, Peking University, China.
- 2012 First Prize Scholarship, Peking University, China.
- 2011 2<sup>nd</sup> Place, Best Student Paper Award IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services, Fuzhou, China, July 6-8.
- 2010 Excellent B. S. Dissertation, Hubei Province, China.

## Meetings and Conference Presentations

- 2019 **X. Feng**, A. Murray, R. Church. “Medical Drone Service Response: Spatiotemporal Heterogeneity Implications.” American Association of Geographers Annual Meeting, Washington, DC, April 3-7, 2019.
- 2018 **X. Feng** and A.T. Murray. “Addressing Spatial Allocation: Planning for Drone-based Emergency Medical Service.” *Western Regional Science Association 57<sup>th</sup> Annual Meeting*, Pasadena, California, USA, February 11-14, 2018.
- 2017 **X. Feng**, S. Wang, S. Gao, and Y. Cao. “Spatial analytics for supporting meetup location.” *64<sup>th</sup> North American Meetings of the Regional Science Association International*, Vancouver, British Columbia, Canada, November 8-11, 2017.
- 2017 **X. Feng** and A.T. Murray. “Heterogeneous Voronoi diagram.” *2017 Annual Meeting of the American Association of Geographers*, Boston, Massachusetts, USA, April 5-9, 2017
- 2016 **X. Feng** and A.T. Murray. “Heterogeneous space facility siting in order to maximize coverage.” *63<sup>rd</sup> North American Meetings of the Regional Science Association International*, Minneapolis, Minnesota, USA, November 9-12, 2016.
- 2016 **X. Feng** and A.T. Murray. “Spatial analytics for enhancing street light coverage of public spaces.” *2016 Annual Meeting of the American Association of Geographers*, San Francisco, California, USA, March 29- April 2, 2016.
- 2015 **X. Feng** and S. Myint. “The effect of spatial heterogeneity of land cover types on land surface temperatures within different land use categories.” *2015 Annual Meeting of the American Association of Geographers*, Chicago, Illinois, USA, April 21-25, 2015.

- 2014 A.T. Murray and **X. Feng**. “Street light coverage optimization.” 61st North American Meetings of the Regional Science Association International, Washington, D.C., USA, November 12-15, 2014.
- 2014 **Xin Feng**. “Understanding the effect of neighboring land cover pattern on land surface temperature of central building patch in Beijing. 2014 *Annual Meeting of the American Association of Geographers*, Tampa, US, April 8-12, 2014.
- 2011 **Xin Feng**, Shihong Du, Hong Shu. “Spatial regression analysis in hemorrhagic fever with renal syndrome (HFRS) in China.” IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services & 8th Beijing International Workshop on Geographical Information Science. Fuzhou, China, July 6-8, 2011.

## **Service**

### **Journal Reviewer**

*Annals of GIS*

*Building and Environment*

*Computers, Environment and Urban Systems*

*Cities*

*Environment and Planning B: Urban Analytics and City Science*

*IEEE Access*

*LEUKOS*

*Sustainable Cities and Society*

*Transportation Research Part E: Logistics and Transportation Review*

### **University and Department Committees**

2017–2018 Events Committee, Department of Geography, UCSB.

2016–2017 Outreach Committee, Department of Geography, UCSB.

2010–2012 Vice President & Director/Committee member of Sports and Entertainment Departments, Graduate Student Union, School of Earth and Space Sciences, Peking University.

2008–2009 Tutor, Community Poverty Alleviation Program, Wuhan University.

## **Professional Society Membership**

American Association of Geographers

Chinese Professional in Geographic Information Systems

Regional Science Association International

Western Regional Science Association

Women in Geographical Sciences

