

# Dongping Zhang

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## RESEARCH INTERESTS

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Networks, Computational Social Science, Information Visualization, Uncertainty Communication

## EDUCATION

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### Northwestern University

*Ph.D. Student in Technology and Social Behavior* Expected: August 2023  
*Joint Program in Computer Science & Communication Studies*  
Advisor: [Jessica Hullman](#)

### The University of Chicago

*M.A. in Computational Social Science* June 2018  
*Thesis: "Spatial Econometric Modeling and Prediction of Origin-Destination Flows:  
An Analysis of 50 Million Chicago Taxi Trips"*  
Advisor: [Luc Anselin](#)

### University of California at Berkeley

*B.A. in Economics, B.A. in Statistics* May 2016

## PUBLICATIONS

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### PEER-REVIEWED CONFERENCE AND JOURNAL PAPER

- **Zhang, Dongping**, Eytan Adar, and Jessica Hullman. "Visualizing Uncertainty in Probabilistic Graphs with Network Hypothetical Outcome Plots (NetHOPs)." *IEEE Transactions on Visualization and Computer Graphics* (2021). <https://doi.org/10.1109/TVCG.2021.3114679>

### INDUSTRY REPORT

- **Zhang, Dongping**, Allan Zhang, and G. Bin Zhao. "China's Economy Maintains Momentum in Challenging Conditions." *China Economic Quarterly PricewaterhouseCoopers Press*, pp. 1-8 (2016).

## ACADEMIC RESEARCH EXPERIENCE

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**Research Assistant** 2019-Present  
*MU Collective Research Lab, Northwestern University* Evanston, IL

PI: [Jessica Hullman](#)

- Investigated the properties of uncertain probabilistic graphs; developed theoretical framework and prototyped visualization tools to understand and communicate graph uncertainty
- System designed and simulated taxi trip flows in the Chicago transportation network and evaluated equilibriums subject to the taxi demand and supply dynamics through Information Design

**Research Assistant** 2018-2019  
*Science of Networks in Communities Research Group, Northwestern University* Evanston, IL

PI: [Noshir Contractor](#)

- Leveraged digital trace data from Enterprise Social Media to construct social networks; investigated network structural signatures to advance theoretical frameworks of People and Relational Analytics
- Designed and administered a large-scale and multi-language network survey; formalized the technique of inferring self-reported ties through network structures and content of the digital traces

**Research Assistant**

2016-2018

*Center for Spatial Data Science, The University of Chicago*

Chicago, IL

PI: [Luc Anselin](#)

- Modeled, predicted, and explained the variations in the level of taxi trip flows across 77 Chicago community areas as captured by 50 million taxi trips
- Identified the social-demographic, built-environment, and urban-transportation effects that can quantify the spatial heterogeneity of urban taxi ridership
- Clustered and categorized taxi drivers by performance and summarized the operation strategies and patterns that successful drivers use to optimize over the bounded resources over space and time

**INDUSTRY RESEARCH EXPERIENCE**

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**Economic Research Analyst**

Summer 2017

*Compass Lexecon*

Chicago, IL

PI: [James Libby](#) and [Todd Kendall](#)

- Reproduced and validated statistical models plaintiffs and their experts claimed to defend clients
- Conducted economic impact analysis to quantify client's damage to the local economic sectors
- Engineered and automated legal settlement data collection pipeline through web scrapping

**Economic Research Assistant**

Summer 2016

*PricewaterhouseCoopers*

Shanghai, China

PI: [G. Bin Zhao](#)

- Researched, identified, and web-scraped datasets from the National Bureau of Statistics of China
- Processed, analyzed, and visualized quarterly economic data and managed database
- Co-authored and published the inaugural edition of *PwC China Economic Quarterly*

**FELLOWSHIP AND SCHOLARSHIPS**

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**Segal Design Institute Research Cluster Fellowship**, Northwestern University, 2020 – 2021

- Selected as an interdisciplinary design research fellow to advance knowledge of design innovation

**Computational Social Sciences Tuition Award**, The University of Chicago, 2016 – 2018

- Received a merit-based tuition scholarship during my M.A. program

**Regents' and Chancellor's Scholarship**, UC Berkeley, 2012 – 2016

- The most prestigious scholarship awarded to the top 2% of undergraduates

**Berkeley Club of Hong Kong Undergraduate Scholarship**, UC Berkeley, 2014 – 2015

- Scholarship awarded based on academic merit and extra-curricular achievements

**TECHNICAL SKILLS**

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**Programming Languages:** R, Python, JavaScript**Information Visualization:** D3.js, R, Tableau**Web-based Prototyping:** HTML, CSS, JavaScript**Geospatial Analysis:** ArcGIS, QGIS, GeoDa, GeoDaSpace**Agent-based Modeling:** NetLogo**Database Management:** PostgreSQL, MySQL