

Qingqing CHEN

Ph.D. Candidate | Urban Geographer

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EDUCATION

- 2021 - 06/2025 **Doctor of Philosophy (Geography), University at Buffalo, US**
Thesis Title : *Decoding Perceived Urban Space through Multi-sensory Experiences : The Smell and Vision*
Advisor : [Andrew Crooks](#)
- 2014 - 2015 **Master of Science (Physics)**, National University of Singapore, Singapore
- 2010 - 2014 **Bachelor of Science (Physics)**, Minjiang University of China, China

FUNDING & AWARDS

- 2024 **OpenAI Researcher Access Program Award**, US
- 2024 **NSF-funded Travel Award for AAG Geospatial Cyberinfrastructure Workshop**, US
- 2024 **GSA Conference Funding Award**, University at Buffalo , US
- 2024 **PhD Fellowship**, Department of Geography, University at Buffalo, US
- 2024 **Finalist of John Odland Paper Competition**, Spatial Analysis and Modeling Specialty Group, US
- 2023 **Hugh W. Calkins Award**, Department of Geography, University at Buffalo, US
- 2023 **NSF-funded Travel Award of I-GUIDE Summer School Program**, UCAR-NSF, US
- 2023 **Excellence in Teaching Award**, Department of Geography, University at Buffalo, US
- 2023 **Student Academic Excellence**, University at Buffalo, US
- 2023 **Quantitative Finance Women's Mentorship Program**, Morgan Stanley, US
- 2023 **Teaching Assistantship**, Department of Geography, University at Buffalo, US
- 2023 **Finalist of the 1st Art of Research Competition**, University of Buffalo, US
- 2022 **Teaching Assistantship**, Department of Geography, University at Buffalo, US
- 2021 **PhD Excellence Initiative Fellowship**, Department of Geography, University at Buffalo, US
- 2012 **The First Prize Scholarship**, Minjiang University of China, China
- 2012 **Excellent Student Leader**, Minjiang University of China, China
- 2011 **The First Prize Scholarship**, Minjiang University of China, China
- 2011 **Pacemaker to Merit Student**, Minjiang University of China, China

PUBLICATIONS

12 peer-reviewed publications, h-index of 5, 91 citations according to Google Scholar as of October 14, 2024

Journal Articles

- 2024 **Chen, Q.**, Wang, B., & Crooks, A. (2024). Community resilience to wildfires : A network analysis approach by utilizing human mobility data. *Computers, Environment and Urban Systems*, 110, 102110. Available at : <https://doi.org/10.1016/j.compenvurbsys.2024.102110>.
- 2024 Poorthuis, A., **Chen, Q.**, & Zook, M. (2024). A nationwide dataset of de-identified activity spaces derived from geo-tagged social media data. *Environment and Planning B : Urban Analytics and City Science*, 23998083241264051. Available at : <https://doi.org/10.1177/23998083241264051>.
- 2024 Chuang, I. T., & **Chen, Q.** (2024). Urban street dynamics : Assessing the relationship of sidewalk width and pedestrian activity based on mobile phone data. *Urban Studies*, 23998083241264051. Available at : <https://doi.org/10.1177/00420980241293659>.
- 2023 **Chen, Q.**, Croitoru, A., & Crooks, A. (2023). A comparison between online social media discussions and vaccination rates : A tale of four vaccines. *Digital Health*, 9, 20552076231155682. Available at : <https://doi.org/10.1177/20552076231155682>.
- 2023 Chuang, I. T., **Chen, Q.**, & Poorthuis, A. (2023). Categorizing urban space based on visitor density and diversity : A view through social media data. *Environment and Planning B : Urban Analytics and City Science*, 50(6), 1471-1485. Available at : <https://doi.org/10.1177/23998083221139848>.

- 2022 **Chen, Q.**, & Crooks, A. (2022). Analyzing the vaccination debate in social media data pre- and post-COVID-19 pandemic. *International Journal of Applied Earth Observation and Geoinformation*, 110, 102783. Available at : <https://doi.org/10.1016/j.jag.2022.102783>.
- 2022 Chuang, I. T., & **Chen, Q.** (2022). Are urban hotspots to avoid or to embrace? Determining the resilience of Auckland city's urban hotspots under lockdown constraints. Available at SSRN. <http://dx.doi.org/10.2139/ssrn.4015368>
- 2021 **Chen, Q.**, Chuang I. T., & Poorthuis, A. (2021). Entangled footprints : Understanding urban neighbourhoods by measuring distance, diversity, and direction of flows in Singapore. *Computers, Environment and Urban Systems*, 90, 101708. Available at : <https://doi.org/10.1016/j.compenvurbsys.2021.101708>.
- 2021 **Chen, Q.**, & Poorthuis, A. (2021). Identifying home locations in human mobility data : An open-source R package for comparison and reproducibility. *International Journal of Geographical Information Science*, 35(7), 1425-1448. Available at : <https://doi.org/10.1080/13658816.2021.1887489>.
- 2017 Ng, C. L., **Chen, Q.**, Chua, J. J., & Hemond, H. F. (2017). A multi-platform optical sensor for in vivo and in vitro algae classification. *Sensors*, 17(4), 912. Available at : <https://doi.org/10.3390/s17040912>.
- 2016 Ng, C. L., Ng, Y. J., **Chen, Q.**, & Hemond, H. F. (2016). Corrections for matrix effects on fluorescence measurement of a multi-platform optical sensor. *Water Practice and Technology*, 11(3), 644-660. Available at : <https://doi.org/10.2166/wpt.2016.069>.

Editorials

- 2024 Crooks, A., & **Chen, Q.** (2024). Exploring the new frontier of information extraction through large language models in urban analytics. *Environment and Planning B : Urban Analytics and City Science*, 51(3), 565-569. Available at : <https://doi.org/10.1177/23998083241235495>.

Peer Reviewed Conference Papers

- 2021 **Chen, Q.**, & Crooks, A. (2021). Delineating a '15-minute city' : An agent-based modeling approach to estimate the size of local communities. In *Proceedings of the 4th ACM SIGSPATIAL international workshop on GeoSpatial simulation* (pp. 29-37), 3486184.3491080. Available at : <https://dl.acm.org/doi/abs/10.1145/3486184.3491080>.

Journal Articles in Preparation

- 2024 **Chen, Q.**, Poorthuis, A., & Crooks, A. [Under revision]. Mapping the invisible : Decoding perceived urban smells through geosocial media in New York City. *Annals of the American Association of Geographers*.
- 2024 **Chen, Q.**, Crooks, A., Sullivan, A., Surtees, J., & Tumiel-Berhalter, L. [Under revision]. From print to perspective : A mixed-method analysis of the convergence and divergence of COVID-19 topics in newspapers and interviews. *PLOS Digital Health*.

Book Chapter in Preparation

- 2024 **Chen, Q.**, See, L., & Crooks, A. [Under review]. Evaluating the feasibility of using ChatGPT for mapping building attributes. In *Geography According to ChatGPT*. IOS Press.

INVITED PRESENTATIONS, TALKS & SEMINARS

- 07/2024 **Chen, Q.** Mapping the invisible : Decoding perceived urban smells through geosocial media in New York City. *Future Cities Research Hub & NGĀ ARA WHETŪ, University of Auckland, Auckland, NZ.*
- 07/2024 **Chen, Q.** Beyond sight : Exploring urban environments through smell. *School of Architecture and Planning, University of Auckland, Auckland, NZ.*
- 02/2024 **Chen, Q.** Where to go?. *MIT Senseable City Lab, Boston, MA, US.*

CONFERENCE PRESENTATIONS & TALKS

- 04/2024 **Chen, Q.**, Poorthuis, A. & Crooks, A. Mapping the invisible : Decoding perceived urban smells through geosocial media in New York City. *2024 AAG Annual Meeting, Honolulu, HI, US.*
- 02/2024 **Chen, Q.**, Crooks, A., Sullivan, A., Surtees, J., & Tumiel-Berhalter, L. A tale of vaccination debates and public responses : Data-driven insights from a multi-medium exploration during the COVID-19 era. *UB AI & Health Symposium, Buffalo, NY, US.*
- 09/2023 Poorthuis, A., **Chen, Q.** & Zook, M. A nationwide dataset of de-identified activity spaces derived from geotagged social media data. *2023 European Colloquium on Theoretical and Quantitative Geography, Braga, Portugal.*

- 09/2023 **Chen, Q.**, Wang, B. & Crooks, A. Community resilience to wildfires : A network analysis approach by utilizing human mobility data. *The 4th Spatial Data Science Symposium*, Virtual.
- 08/2023 Brandt, K., **Chen, Q.**, Nomura, K., Torkashvand, M., Vogel, A., Xu, J., Yang, H., & Chung, M. G. International supply chain shocks in a metacoupled world. *I-GUIDE Summer School*, Boulder, CO, US.
- 07/2023 **Chen, Q.** & Crooks, A. A tale of vaccination debates and public responses : Data-driven insights from a multi-medium exploration. *UB PIPP Modeling Workshop*, Buffalo, NY, US.
- 03/2023 **Chen, Q.**, Wang, B. & Crooks, A. Community resilience to wildfires : A network analysis approach by utilizing human mobility data. *2023 AAG Annual Meeting*, Denver, CO, US.
- 03/2023 Chuang, I. T., **Chen, Q.** & Poorthuis, A. Categorizing urban space based on visitor density and diversity : A view through social media data. *2023 Spatial Lightning Talks*, Center for Spatial Studies, US Santa Barbara, Virtual.
- 02/2022 **Chen, Q.** & Crooks, A. Analyzing the vaccination debate in social media data pre- and post-COVID-19 pandemic. *Graduate Student Lightning Talks*, UB Department of Geography, Buffalo, NY, US.
- 02/2022 **Chen, Q.** & Crooks, A. Tracking the dynamics of vaccination sentiment in large-scale social media data. *2022 AAG Annual Meeting*, Virtual.
- 11/2021 **Chen, Q.** & Crooks, A. Delineating a '15-minute city' : An agent-based modeling approach to estimate the size of local communities, *The 4th ACM SIGSPATIAL International Workshop on GeoSpatial Simulation*, Virtual.
- 09/2021 Chuang, I. T. & **Chen, Q.**. Re-assess meaningful urban spaces : Sensing Auckland social 'hotspots' with mobile location data under the COVID-19 Impact. *The 5th International Conference 'Urban e-Planning'*, Institute of Geography and Spatial Planning, University of Lisbon, Lisbon, Portugal, Virtual.
- 11/2019 **Chen, Q.** & Poorthuis, A. Identifying home locations in human mobility data : An open-source R package for comparison and reproducibility. *GSES & GeoAI-UC Geoinformatics Weeks*, Guangzhou, China.

TEACHING EXPERIENCE

- 12/2023 **Instructor of Record, Department of Geography, University at Buffalo (UB), United States**
- 08/2023 **Univariate Statistics in Geography (Lecture)**
- Designed & organized class focused on descriptive and inferential aspects of statistics
 - Taught and mentored 28 undergraduate students
 - Evaluated students' assignments and proctoring exams
- 05/2023 **Teaching Assistant, Department of Geography, University at Buffalo (UB), United States**
- 01/2022 **Geographical Information Systems (Laboratory), Excellence in Teaching Award**
- Taught & mentored 50 undergraduate and graduate students in practical GIS lab
 - Evaluated students' assignments and proctored exams
- 01/2020 **Graduate Teaching Assistant, Singapore University of Technology & Design (SUTD), Singapore**
- 11/2019 **Computational Urban Analysis, MSc Urban Science, Policy & Planning program**
- Provided assistance to 20 graduate students in practical programming lab
 - Assisted and mentored students in groups and on an individual basis
 - Evaluated students' assignments together with the professor
- 05/2019 **Graduate Teaching Assistant, Singapore University of Technology & Design (SUTD), Singapore**
- 01/2019 **Research Methodology for Urban Analysis, MSc Urban Science, Policy & Planning program**
- Enhanced class productivity by providing assistance in class
 - Discussed students' questions with the professor & mentored students in final projects

WORK EXPERIENCE

- 08/2024 | Research Assistance, University at Buffalo (UB), United States
06/2022 | Department of Geography , PI : [Dr. Andrew Crooks](#)
Key Responsibilities
- Evaluated the feasibility of using LLMs for extracting building attributes on street view images
 - Conducted a “big-thick” data analysis for analyzing pandemic impacts via newspapers and interviews
 - Analyzed convergence and divergence in pandemic topics through topic modeling
 - Quantified disaster resilience using network analysis on mobile phone data
- Large Language Models (LLMs) | Topic Modeling | Text Mining | Network Analysis | Time-series Clustering | Big-Thick Data
- 01/2021 | Research Associate, Singapore University of Technology & Design(SUTD), Singapore
04/2018 | [New Urban Kampung Research Programme](#), Humanities, Arts & Social Sciences (HASS), PI : [Dr. Ate Poorthuis](#)
Key Responsibilities
- Analyzed and visualized large-scale survey data and social media data
 - Conducted Q method analysis to identify Quality of life (QoL) indicators
 - Conducted segmentation analysis with machine learning techniques
 - Designed and developed interactive visualization dashboard for client-side
 - Developed an R package to adopt different algorithms for inferring meaningful locations
 - Performed data collection through web crawling and interfacing with APIs
- Interactive Visualization | Spatial Analysis | Segmentation Analysis | Machine Learning | Text Mining | Social Media Data
- 03/2018 | Research Engineer, Singapore-MIT Alliance for Research & Technology Centre (SMART), Singapore
10/2015 | Center for Environmental Sensing & Modeling (CENSAM), PI : [Dr. Harold Hemond](#)
Key Responsibilities
- Prepared reagents for calibration and carried out laboratory data collection & analysis
 - Investigated matrix effects on fluorescence properties and explored methods for algae classification
 - Validated optical sensor in measuring standards samples & calibrated spectrometer wavelength
 - Scheduled and trained 1 research assistant & 5 interns
 - Organised lab test solutions, compounds and accurately ordered & inventoried lab chemicals and supplies
- Reagent Calibration | Data Collection | Algae Classification | Lab Management | Training & Guidance

PROFESSIONAL SERVICES

Reviewed Papers for the Following Journals

Annals of the American Association of Geographers
Environment and Planning B : Urban Analytics and City Science
International Journal of Geographical Information Science
Social Network Analysis and Mining
PLOS ONE

TECHNICAL SKILLS

- DATA SCIENCE** R (Proficient in tidyverse, ggplot, spatial libraries, interactive visualization dashboard, package development, & project management)
Python (Familiar with NumPy, and pandas)
Spatial Statistics (Familiar with spatial autocorrelation, spatial regression modelling & network analysis)
Machine Learning (Familiar with regression, dimension reduction, clustering & classification)
Text mining (Good at sentiment analysis, tf-idf statistic, n-grams, topic-modelling, co-occurrence analysis & named entity recognition)
Statistics (Proficient in descriptive and inferential statistics)
- TOOLS** ArcGIS Pro, Tableau, Elasticsearch, Git, Markdown, Jupyter Notebooks, Anaconda
- LANGUAGES** English (Fluent), Mandarin (Mother tongue)