

# Wei Zhai, Ph. D

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[Computational Urban Resilience Lab](#) | [Google Scholar](#) | [ResearchGate](#)

**Urban Resilience | Environmental Planning | Environmental Justice | Urban Data Science | Urban AI**

## EDUCATION

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- 08/2017 – 05/2021 *University of Florida (Outstanding International Student Award)*  
Ph. D, Urban and Regional Planning  
Advisor: Prof. Zhong-Ren Peng (Urban and Regional Planning)  
Committee Members: Prof. Kevin Ash (Geography), Prof. Damon Woodard (Computer Engineering), Prof. Yan Wang (Urban and Regional Planning)
- 08/2017 – 05/2020 *University of Florida*  
M.Eng., Computer Engineering
- 09/2015 – 06/2017 *Tsinghua University (Excellent Thesis Award)*  
Master of City Planning
- 09/2010 – 06/2015 *Hunan University (The Highest Distinction)*  
B.Eng., Urban Planning

## ACADEMIC APPOINTMENTS

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- 08/2022 – Present Assistant Professor, School of Architecture and Planning  
*The University of Texas at San Antonio*
- 08/2021 – 06/2022 Assistant Professor, Department of Geography  
*Hong Kong Baptist University*

## PROFESSIONAL EXPERIENCE

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- 08/2016 - 02/2017 Assistant Planner  
*China Academy of Urban Planning and Design*  
Wuxi Comprehensive Plan in Jiangsu, China
- 08/2014 - 11/2014 Assistant Planner  
*China Academy of Urban Planning and Design*  
Liupanshui Comprehensive Plan in Guizhou, China
- 06/2013 - 09/2013 Assistant Architect  
*Architecture Design & Research Institute of Hunan University Co., Ltd*  
Hengyang Museum Design in Hunan, China

## PEER-REVIEWED JOURNAL PUBLICATIONS

(Students supervised; \*Corresponding author)

- #27 Zhong, G., Zhai, G., Chen, W., Lin, X., **Zhai, W.** (2023). Spatial allocation of shelters considering the blockage effect on roads under earthquake. *Natural Hazards Review*.
- #26 Hu, W., Wang, S., & **Zhai, W.** (2023). Human-centric vs. technology-centric approaches in a top-down smart city development regime: Evidence from 341 Chinese cities. *Cities*, 137, 104271.
- #25 Liu, X., **Zhai, W.** \* (2023). The Effect of Built Environment on Urban Park Visits during the Early Outbreak of COVID-19. *Transport Findings*.
- #24 Gao, S., **Zhai, W.** \*, & Fu, X. (2023). Green space justice amid COVID-19: Unequal access to public green space across American neighborhoods. *Frontiers in Public Health*, 11, 230.
- #23 **Zhai, W.** \* (2022). A multi-level analytic framework for disaster situational awareness using Twitter data. *Computational Urban Science*, 2(23):2-15.
- #22 **Zhai, W.** \*, Yue, H., Deng, Y. (2022). Examining the Association between Urban Green Space Visitation and Viral Transmission of COVID-19 during the Early Outbreak. *Applied Geography*.
- #21 Huang, H., Li, Y., Zhao, Yi., **Zhai, W.** \* (2022). Analysis of the Impact of Urban Summer High Temperatures and Outdoor Activity Duration on Residents' Emotional Health: Taking Hostility as an Example. *Frontiers in Public Health*, 10.
- #20 Fu, X., Li, C., **Zhai, W.** \* (2022). Using Natural Language Processing to Read Plans: A Study of 78 Resilience Plans From the 100 Resilient Cities Network. *Journal of the American Planning Association*.
- #19 Li, S. A., **Zhai, W.**, Jiao, J., & Wang, C. K. (2022). Who loses and who wins in the ride-hailing era? A case study of Austin, Texas. *Transport Policy*, 120, 130-138.
- #18 Lin, Y., Peng, C., Shu, J., **Zhai, W.**, & Cheng, J. (2022). Spatiotemporal characteristics and influencing factors of urban resilience efficiency in the Yangtze River Economic Belt, China. *Environmental Science and Pollution Research*, 1-20.
- #17 **Zhai, W.** \*, Peng, Z. R., & Bai, X. (2021). Prototypical Resilience Projects for Postdisaster Recovery Planning: From Theory to Action. *Journal of Planning Education and Research*, 0739456X211048928.
- #16 **Zhai, W.** \*, & Yue, H. (2021). Economic resilience during COVID-19: An insight from permanent business closures. *Environment and Planning a: Economy and Space*, 54(2), 219-221.
- #15 Han, Y., Mao, L., Chen, X., **Zhai, W.**, Peng, Z. R., & Mozumder, P. (2021). Agent-based Modeling to Evaluate Human–Environment Interactions in Community Flood Risk Mitigation. *Risk Analysis*.

- #14 Yuan, F., Li, M., Liu, R., **Zhai, W.**, & Qi, B. (2021). Social media for enhanced understanding of disaster resilience during Hurricane Florence. *International Journal of Information Management*, 57, 102289.
- #13 **Zhai, W.\***, Fu, X., Liu, M., & Peng, Z. R. (2021). The impact of ethnic segregation on neighbourhood-level social distancing in the United States amid the early outbreak of COVID-19. *Urban Studies*, 00420980211050183.
- #12 **Zhai, W. \***, Liu, M., Fu, X., & Peng, Z. R. (2021). American inequality meets COVID-19: Uneven spread of the disease across communities. *Annals of the American Association of Geographers*, 111(7), 2023-2043.
- #11 Bai, X., Steiner, R. L., & **Zhai, W.\*** (2021). Beyond Neighborhood Design: Exploring the Effects of Smart Growth on Older Adults' Travel Behavior over Time. *Journal of Planning Education and Research*, 0739456X211020352.
- #10 Fu, X., & **Zhai, W. \*** (2021). Examining the spatial and temporal relationship between social vulnerability and stay-at-home behaviors in New York City during the COVID-19 pandemic. *Sustainable cities and society*, 102757.
- #9 **Zhai, W.\***, & Peng, Z. R. (2020). Damage assessment using google street view: evidence from hurricane michael in mexico beach, florida. *Applied geography*, 123, 102252.
- #8 **Zhai, W.**, Peng, Z. R., & Yuan, F. (2020). Examine the effects of neighborhood equity on disaster situational awareness: Harness machine learning and geotagged Twitter data. *International Journal of Disaster Risk Reduction*, 48, 101611.
- #7 **Zhai, W.**, Liu, M., & Peng, Z. R. (2020). Social distancing and inequality in the United States amid COVID-19 outbreak. *Environment and Planning A: Economy and Space*, 53(1), 3-5.
- #6 **Zhai, W.**, & Peng, Z. R. (2020). Where to buy a house in the United States amid COVID-19?. *Environment and Planning A: Economy and Space*, 53(1), 9-11.
- #5 Bai, X., **Zhai, W.\***, Steiner, R. L., & He, Z. (2020). Exploring extreme commuting and its relationship to land use and socioeconomics in the central Puget Sound. *Transportation Research Part D: Transport and Environment*, 88, 102574.
- #4 Gu, C., Ye, X., Cao, Q., Guan, W., Peng, C., Wu, Y., & **Zhai, W.** (2020). System dynamics modelling of urbanization under energy constraints in China. *Scientific Reports*, 10(1), 1-16.
- #3 **Zhai, W.**, Bai, X., Shi, Y., Han, Y., Peng, Z. R., & Gu, C. (2019). Beyond Word2vec: An approach for urban functional region extraction and identification by combining Place2vec and POIs. *Computers, Environment and Urban Systems*, 74, 1-12. **(ESI top 1% Highly Cited Paper)**
- #2 **Zhai, W.**, Bai, X., Peng, Z. R., & Gu, C. (2019). From edit distance to augmented space-time-weighted edit distance: Detecting and clustering patterns of human activities in Puget Sound region. *Journal of Transport Geography*, 78, 41-55.

- #1 **Zhai, W.**, Bai, X., Peng, Z. R., & Gu, C. (2019). A bottom-up transportation network efficiency measuring approach: A case study of taxi efficiency in New York City. *Journal of Transport Geography*, 80. 102502.

## BOOK REVIEW

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- #1 **Zhai, W.** (2018). How to Kill a City: Gentrification, Inequality, and the Fight for the Neighborhood, by Peter Moskowitz. *Journal of the American Planning Association*, 84(2), 203-203.

## BOOK CHAPTER

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- #1 Peng, Z. R., **Zhai, W.**, & Lu, K. (2022). Smart, Sustainable, and Resilient Transportation System. *New Thinking in GIScience*, 319. Springer. USA.

## EXTERNAL GRANTS

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- 2023-2024 **Co-PI.** How Can We Direct City Resources Toward the Areas Most Impacted by Extreme Heat? *City of San Antonio*. [**34,994 USD**, ~25 % my proportion, w/ PI: Kristen Brown, Co-PI: Ryun Jung Lee, Co-PI: Esteban Lopez Ochoa]
- 2023-2024 **Co-PI.** Evaluating the Urban Heat Mitigation Potential of the San Antonio Cool Pavement Pilot. *City of San Antonio*. [**143,520 USD**, ~20% my proportion, w/ PI: Neil Debbage, Co-I: Ryun Jung Lee, Co-I: Esteban Lopez Ochoa]
- 2021-2024 **PI.** Measurement of neighborhood resilience to flooding and evaluation of planning strategies in a dynamic context. *National Science Foundation of China* (**43,000 USD**, ~100% my proportion, withdrew due to move to UTSA).
- 2020-2021 **PI.** Prediction of American's mobility under extreme weather events using artificial intelligence. **AI for Earth Grant**, *Microsoft* (**10,000 USD**, ~100% my proportion).

## PENDING GRANTS

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- 2022/2023 **PI.** Rescue-Hispanics: Harvesting Spanish speakers' hurricane rescue-seeking messages from social media with deep learning. *Climate Change AI grant*. [**150,000 USD**, ~34% my proportion, w/ Co-I, Anthony Rios, Co-PI, Isaura Contreras Rios].
- 2022/2023 **Co-PI.** Urban heat island modeling and socioeconomic outcome modeling: The case of San Antonio, TX. *NASA*. [**1,702,002 USD**, ~10% my proportion, w/ PI: Swanand Bhagwat (Southwest Research Institute), Co-I: David Chambers (Southwest Research Institute); Co-I: Roger Enriquez, Co-I: Kristen Brown, Co-I: Ryun Jung Lee, Co-I: Esteban Lopez Ochoa].
- 2022/2023 **PI.** Faith-based Solutions: Disaster Resilience for African American Communities. *National Endowment for the Humanities*. [**150,000 USD**, ~60% my proportion, Co-I, Jasmine Harris].

## UNSUCCESSFUL GRANT BIDS

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- 2022/2023 **PI.** Uncovering the Impacts of E-Commerce Growth on the Location Choice of Warehousing Facilities: Before, During and After the COVID-19 Pandemic. *Amazon Research Awards*. [80,000 USD, ~50% my proportion, w/ Co-PI: Kailai Wang].
- 2022/2023 **PI.** Urban Green Space Use Pre- and Post- COVID-19 Lockdown and its Effects on Residents' Health: Coupling Big Data and Small Data. *Lincoln Institute of Land Policy* [34,950 USD, ~100% my proportion].
- 2021/2022 **PI.** Disaster Misinformation Sharing on Social Media in a Highly Regulated Context: The Impact of Tight Information Control and Efficacy of Official Corrections in China. **Early Career Scheme, Hong Kong Research Grant Council** [72,000 USD, **submission withdrawn due to change of institution**, ~100% my proportion].

## CONFERENCES/INVITED TALKS

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- 12/2022 **Zhai, W.** (Invited Speaker). Using Data Science to Understand Disaster Resilience. Panel Discussion on Emerging Urban Research Topics. *Northeast Normal University, Changchun, China*. (Online, Hosted by Dr. Chunhong Zhao)
- 11/2022 **Zhai, W.** (Invited Speaker). Community resilience and social vulnerability in the United States during the COVID-19, *Nanjing University Post and Telecommunication, Nanjing, China*. (Online, Hosted by Dr. Wei Chen)
- 10/2022 **Zhai, W.** (Presenter & Panelist). Spatiotemporal patterns and social networks of disaster misinformation sharing and its correction. *Checking the Fact-Checkers: A Global Perspective*, Hong Kong. (Online, Hosted by Celine Song)
- 10/2022 **Zhai, W.** (Invited Speaker). Using Data Science to Understand Disaster Resilience. *Florida International University ORDER-CRISP research group*, Miami, FL, USA. (Online, Hosted by Prof. Pallab Mozumder)
- 09/2022 **Zhai, W.** (Invited Speaker). Urban Resilience: Definitions, Approaches, and Agendas. *City University of Hong Kong*, Hong Kong SAR. (Online, Hosted by Dr. Wanyang Hu)
- 09/2022 **Zhai, W.** (Invited Speaker). From Ph.D. Student to Faculty: The Trajectory of My Research Agenda. *Texas A&M University at College Station*, College Station, TX, USA. (Hosted by Prof. Xinyue Ye)
- 06/2022 **Zhai, W.** (Presenter). The impact of ethnic segregation on neighbourhood-level social distancing in the United States amid the early outbreak of COVID-19. *The 16th International Association for China Planning (IACP) Conference*. Wuhan, China. (Online)
- 02/2022 **Zhai, W.** (Job Talk). Using Data Science to Enhance Urban Climate Resilience. *Utah State University*.
- 02/2022 **Zhai, W.** (Job Talk). Using Data Science to Enhance Urban Resilience. *University of Texas at San Antonio*.

- 02/2022 **Zhai, W.** (Presenter). The impact of ethnic segregation on neighbourhood-level social distancing in the United States amid the early outbreak of COVID-19. *Annual Meeting of AAG*. New York City, NY, USA.
- 11/2021 **Zhai, W.** (Presenter). Damage assessment using google street view image. *City+ Conference*. Milan, Italy.
- 10/2021 **Zhai, W.** (Presenter). Beyond Word2vec: An approach for urban functional region extraction and identification by combining Place2vec and POIs. 3. *The 15th International Association for China Planning (IACP) Conference*. Nanjing, China.
- 11/2020 **Zhai, W.** (Presenter). Prediction of American's Mobility under Extreme Weather Events using Artificial Intelligence. *AI for Earth Digital summit*. Online.
- 11/2020 **Zhai, W.** (Presenter). Prototypical resilience projects for post-disaster recovery planning. *Annual Conference of ACSP*. Online.
- 10/2019 **Zhai, W.** (Session Moderator). Land use and transportation connections. *Annual Conference of ACSP*. Greenville, SC, USA.
- 10/2018 **Zhai, W.** (Presenter). Measure the local and global commuting efficiency: An exploratory analysis of taxi commuting in New York City. *Annual Conference of ACSP*. Buffalo, NY, USA.
- 04/2018 **Zhai, W.** (Presenter). An approach for urban functional region identification and extraction: Combining Word2vec model and multisource data. *Annual Meeting of AAG*, New Orleans, LA, USA.

## TEACHING

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- Spring/2022 **Instructor**, URP 5463 Environmental Planning and Assessment (UTSA)
- Fall/2022 **Instructor**, URP 5363 Urban Planning Methods I (UTSA, 5.0/5.0)
- Spring/2022 **Instructor**, GEOG7060 Contemporary Geography Research Seminar (HKBU, 4.5/5.0)
- Spring/2022 **Instructor**, GEOG4086 Urban and Environmental Planning (HKBU, 4.4/5.0)
- Spring/2022 **Instructor**, GCAP3026 Field Studies for Environmental Issues (HKBU, 4.5/5.0)
- Fall/2021 **Instructor**, GEOG1005 Geography and the Contemporary World (HKBU, 4.3/5.0)
- Fall/2021 **Instructor**, GEOG7060 Contemporary Geography Research Seminar (HKBU, 4.4/5.0)
- Spring/2021 **Teaching Assistant**, URP 6821 Transportation and Land Use Model (UF, 4.2/5.0)
- Spring/2019 **Teaching Assistant**, URP 6821 Transportation and Land Use Model (UF, 4.0/5.0)
- Fall/2020 **Guest Lecturer**, DCP Doctoral Core 4 (UF)

Fall /2020	<b>Guest Lecturer</b> , Doctoral Core 3: Dissertation Preparation (UF)
Fall /2020	<b>Guest Lecturer</b> , Advanced Design, Construction and Planning Research II (UF)
Spring/2020	<b>Guest Lecturer</b> , DCP 7794 Doctoral Seminar (UF)
Spring/2019	<b>Guest Lecturer</b> , DCP 7794 Doctoral Seminar (UF)

## **STUDENTS MENTORED AND SUPERVISED**

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### ***Ph. D Students***

2021-2022      **Guangchun Zhong**, Visiting Ph. D student, Nanjing University, Dissertation topic: Disaster evacuation modelling in high-density urban areas

### ***Undergraduates***

2021-2022      **Ka Hei Chan**, Compare other New Towns: Explore the traffic and planning situation of Kwun Tong

2021-2022      **Ling Yu Fung**, Heritage conservation and benefit in Hong Kong (Tai Kwun)

2021-2022      **Ka Fai Lee**, A study of "Lantau tomorrow vision" and its environmental consequences: is this development project necessary in Hong Kong?

2021-2022      **Suet Man Loo**, A study of Chinese mansion in Hong Kong and its value in conservation

2021-2022      **Po Yan Siu**, The Spatial Patterns and Cultural Value of Street Performances in Hong Kong

2021-2022      **Wing Sang Tsang**, The pattern and trends of road accident in Hong Kong

## **AWARDS & HONORS**

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05/2021      University of Florida - Paul and Malea Zwick Graduate Student Award

05/2020      2020 DCP Research Symposium - Best Poster Award

05/2020      Association of Collegiate Schools of Planning - Travel Award

05/2020      University of Florida - Outstanding International Student Award

06/2014      Urban Design Competition, National Steering Committee of Urban and Rural Planning Education - Excellence Award

06/2014      Urban Transportation Competition, National Steering Committee of Urban and Rural Planning Education - Excellence Award

08/2014      11th Excellent Design Exhibition of Hunan Province - First Prize Design Award

## **EDITOR & REVIEWER SERVICE**

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- 2022- **Associate Editor**, *Travel Behaviour & Society*
- 2022- **Guest Editor**, Moving Toward Climate-resilient Mobility, *Travel Behaviour & Society*
- 2022- **Editorial Board Member**, *Frontiers in Built Environment (Climate Change and City track)*
- 2023- **Associate Editor**, *Humanities and Social Sciences Communications*
- 2019- **Journal Reviewer** (Initial submissions)  
Annals of the American Association of Geographers (2)  
Computers, Environment, and Urban Systems (1)  
Cities (5)  
Travel Behavior and Society (7)  
Journal of Advanced Transportation (1)  
Computational Urban Science (4)  
International Journal of Disaster Risk Reduction (1)  
Applied Geography (2)  
Journal of Cleaner Production (2)  
Remote Sensing (3)  
International Journal of Information Management (1)  
BMJ Global Health (1)  
Environment and Planning A (1)  
International Journal of Environmental Research and Public Health (1)  
Plos One (1)  
Land (1)  
Sustainability (1)  
International Journal of Geo-Information (1)  
The Professional Geographer (1)  
npj Urban Sustainability (1)  
Sustainable Cities and Society (1)  
Journal of Geographical Sciences (1)
- 2022 **Thesis External Reviewer for Tongji University**  
**Gwendoline Charreau**, Thesis Title: *The influence of the built environment on community flood resilience- Case study of Ile-De France Region*. Advisor: Prof. Jing Gan  
  
**Aymeric Brouez**, Thesis Title: *Climatic vulnerability assessment of active mobility and resilient planning: Case study of Amsterdam*. Advisor: Dr. Chao Liu

## **PROFESSIONAL SERVICE**

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- 2023- **Committee Member**, Ed McClure Award for Best Masters Student Paper, Association of Collegiate Schools of Planning (ACSP)
- 2021-2022 **Executive Committee Member**, Hong Kong Geographical Association



## INTERNAL SERVICE

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2023-2025	Committee, Center for Urban and Regional Planning Research (CURPR), UTSA
2022-	MSURP Admission Review Committee for School of Architecture and Planning, UTSA
2022 Fall	R Programming Boot Camp for KLESSE College of Engineering and Integrated Design, UTSA
2022 Fall	Common Book ( <i>Six Drawing Lessons</i> ) Panel Discussion for School of Architecture and Planning, UTSA
2021 Fall	Doctoral Program Admission Committee for Department of Geography, Hong Kong Baptist University.

## MEDIA COVERAGE

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2022	<b>American Planning Association</b> , Reading Plans With Machines for Improved Efficiency, <a href="https://www.planning.org/blog/9260046/reading-plans-with-machines-for-improved-efficiency/">https://www.planning.org/blog/9260046/reading-plans-with-machines-for-improved-efficiency/</a>
2022	<b>LSE US Center</b> , Ride-hailing services can make travel easier for disadvantaged communities in low-density transit deserts, <a href="https://bit.ly/3xPV9Zw">https://bit.ly/3xPV9Zw</a>
2021	<b>HKBU News</b> , Managing disasters with artificial intelligence, <a href="https://bunews.hkbu.edu.hk/news/people/managing-disasters-with-artificial-intelligence">https://bunews.hkbu.edu.hk/news/people/managing-disasters-with-artificial-intelligence</a>
2020	<b>University of Florida URP News</b> , <a href="https://dcp.ufl.edu/urp/microsoft-ai-for-earth-grant/">https://dcp.ufl.edu/urp/microsoft-ai-for-earth-grant/</a>
2020	<b>University of Florida iAdapt News</b> , <a href="https://dcp.ufl.edu/iadapt/poor-and-black-neighborhoods-express-different-attitudes-towards-the-hurricane/">https://dcp.ufl.edu/iadapt/poor-and-black-neighborhoods-express-different-attitudes-towards-the-hurricane/</a>
2020	<b>University of Florida iAdapt News</b> , The Change of Mobility in Poor and Wealthy Counties in the United States Amid Covid-19 Outbreak <a href="https://dcp.ufl.edu/iadapt/hello-world-2/">https://dcp.ufl.edu/iadapt/hello-world-2/</a>
2019	<b>University of Florida URP News</b> , Measuring Citywide Transportation Efficiency, <a href="https://dcp.ufl.edu/urp/measuring-citywide-transportation-efficiency/">https://dcp.ufl.edu/urp/measuring-citywide-transportation-efficiency/</a>