CURRICULUM VITAE

Atsushi Nara
Department of Geography
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-4493
(619) 594-1305
anara@sdsu.edu
https://anara-geog.sdsu.edu

EDUCATION

2011 Ph.D.	Arizona State University Geography
2005 M.S.	University of Utah Geography
2000 B.S.	Shimane University Environmental Engineering

ACADEMIC POSITIONS

2019 – Present San Diego State University	Associate Professor Geography
2014 – 2019 San Diego State University	Assistant Professor Geography
2012 – 2014 University of Oklahoma	Research Scientist Geographic Information Science
2011– 2012 University of Maryland, College Park	Research Associate/Lecturer Geography
2011 University of Oklahoma	Post-Doctoral Research Associate Geographic Information Science
2010 University of Tokyo	Research Scientist Engineering
2008 – 2010 National Institute of Advanced Industrial Science and Technology, Japan	Research Scientist Geographic Information Science
2005 – 2008 Arizona State University	Research Assistant/Teaching Assistant Geography

PROFESSIONAL GROWTH

(*) marks non-first, corresponding author
(+) marks publication joint-authored with advisees

Books

1. **Nara, A.**, & Tsou, M.-H. (Eds.). (2021). *Empowering Human Dynamics Research with Social Media and Geospatial Data Analytics*. Springer International Publishing. https://doi.org/10.1007/978-3-030-83010-6

Refereed Journal Articles

1. **Nara, A.**, +Embury, J., +Velasco, M., Russell, R., Magdy, A., & Dony, C. C. (2024). Preparing for a Career at the Intersection of Geography and Computing: Availability and Access to Training Along Geocomputational Career Pathways. *The Professional Geographer*. 2024;77(1):55-83. https://doi.org/10.1080/00330124.2024.2404911
2. +Park, J., Tsou, M.-H., **Nara, A.**, Dodge, S., & Cassels, S. (2024). Examining human mobility changes during COVID-19 across socioeconomic groups: A comparative analysis of San Diego County and New York City. *Computational Urban Science*, 4(1), 21. https://doi.org/10.1007/s43762-024-00133-1
3. +Ross, C., Stow, D., Sousa, D., Jennings, M., **Nara, A.**, & Riggan, P. (2024). Machine learning approach to burned area mapping for Southern California. *International Journal of Remote Sensing*, 45(17), 5820–5844. https://doi.org/10.1080/01431161.2024.2380543
4. +Embury, J., **Nara, A.**, Rey, S., Tsou, M.-H., & Ghanipoor Machiani, S. (2024). Detecting synthetic population bias using a spatially-oriented framework and independent validation data. *International Journal of Geographical Information Science*. 2024;38(9):1912-1938. https://doi.org/10.1080/13658816.2024.2358399
5. Cao, Y., Yang, J.-A., **Nara, A.**, & Jankowska, M. M. (2024). Designing and Evaluating a Hierarchical Framework for Matching Food Outlets across Multi-sourced Geospatial Datasets: A Case Study of San Diego County. *Journal of Urban Health*. https://doi.org/10.1007/s11524-023-00817-9
6. +Park, J., Tsou, M.-H., **Nara, A.**, Cassels, S., & Dodge, S. (2024). Developing a social sensing index for monitoring place-oriented mental health issues using social media (Twitter) data. *Urban Informatics*, 3(1), 2. https://doi.org/10.1007/s44212-023-00033-5
7. +Luo, N., **Nara, A.**, Khoo, H. L., & Chen, M. (2024). An integration modeling framework for individual-scale daily mobility estimation. *Travel Behaviour and Society*, 34, 100650. https://doi.org/10.1016/j.tbs.2023.100650
8. +Jin, C., Park, S., Ha, H. J., Lee, J., Kim, J., Hutchenreuther, J., & **Nara, A.** (2023). Predicting households' residential mobility trajectories with geographically localized interpretable model-agnostic explanation (GLIME). *International Journal of Geographical Information Science*, 37(12), 2597–2619. https://doi.org/10.1080/13658816.2023.2264921
9. Chin, W. C. B., Feng, C.-C., Leong, C.-H., Pang, J., Clapham, H. E., **Nara, A.**, Tsou, M.-H., & Wang, Y.-C. (2023). Integrating local and neighboring area influences into vulnerability modeling of infectious diseases in Singapore. *International Journal of Applied Earth Observation and Geoinformation*, 121, 103376. https://doi.org/10.1016/j.jag.2023.103376
10. +Shennan, K., Stow, D. A., **Nara, A.**, Schag, G. M., & Riggan, P. (2023). Geovisualization and Analysis of Landscape-Level Wildfire Behavior Using Repeat Pass Airborne Thermal Infrared Imagery. *Fire*, 6(6), Article 6. https://doi.org/10.3390/fire6060240
11. +Young, N. N., Stow, D. A., Swayne, M. R. E., & **Nara, A.** (2023). Mapping environmentally sustainable urban development within six US cities through object-based image change analysis of aerial orthoimagery. *Environmental Monitoring and Assessment*, 195(4), 469. https://doi.org/10.1007/s10661-023-11075-2

12. +Obrochta, C. A., Parada, H. Jr., Murphy, J. D., **Nara, A.**, Trinidad, D., Araneta, M. R., & Thompson, C. A. (2022). The impact of patient travel time on disparities in treatment for early stage lung cancer in California. *PLOS ONE*, 17(10), e0272076. https://doi.org/10.1371/journal.pone.0272076
13. +Embury, J., Tsou, M.-H., **Nara, A.**, & Oren, E. (2022). A Spatio-Demographic Perspective on the Role of Social Determinants of Health and Chronic Disease in Determining a Population's Vulnerability to COVID-19. *Preventing Chronic Disease*, 19. https://doi.org/10.5888/pcd19.210414
14. +Loerch, A. C., Stow, D. A., Coulter, L. L., **Nara, A.**, & Frew, J. (2022). Comparing the Accuracy of sUAS Navigation, Image Co-Registration and CNN-Based Damage Detection between Traditional and Repeat Station Imaging. *Geosciences*, 12(11), Article 11. https://doi.org/10.3390/geosciences12110401
15. +Schag, G. M., Stow, D. A., Riggan, P. J., & **Nara, A**. (2022). Spatial-Statistical Analysis of Landscape-Level Wildfire Rate of Spread. *Remote Sensing*, 14(16), Article 16. https://doi.org/10.3390/rs14163980
16. +Luo, N., ***Nara, A.**, & Izumi, K. (2021). An Interaction-Based Bayesian Network Framework for Surgical Workflow Segmentation. *International Journal of Environmental Research and Public Health*, 18(12), 6401. https://doi.org/10.3390/ijerph18126401
17. +Şalap-Ayça, S., Jankowski, P., Clarke, K. C., & **Nara, A.** (2021). Is less more? Experimenting with visual stacking of coincident maps for spatial global sensitivity analysis in urban land-use change modeling. *Environmental Modelling & Software*, 145, 105181. https://doi.org/10.1016/j.envsoft.2021.105181
18. Solem, M., Dony, C., Herman, T., León, K., Magdy, A., **Nara, A.**, Ray, W., Rey, S., & Russell, R. (2021). Building Educational Capacity for Inclusive Geocomputation: A Research-Practice Partnership in Southern California. *Journal of Geography*, 120(4), 152–159. https://doi.org/10.1080/00221341.2021.1933140
19. +Melendez, B., Ghanipoor Machiani, S., & **Nara, A**. (2021). Modelling traffic during Lilac Wildfire evacuation using cellular data. *Transportation Research Interdisciplinary Perspectives*, 9, 100335. https://doi.org/10.1016/j.trip.2021.100335
20. Oren, E., Martinez, L., Hensley, R. E., Jain, P., Ahmed, T., Purnajo, I., **Nara, A.**, & Tsou, M.-H. (2020). Twitter Communication During an Outbreak of Hepatitis A in San Diego, 2016–2018. *American Journal of Public Health*, 110(S3), S348–S355. https://doi.org/10.2105/AJPH.2020.305900
21. +Hawks, J. R., **Nara, A.**, Wells, K. J., Ferrand, J. L., & Walsh-Buhi, E. R. (2020). Gardasil on Twitter: A Content Mining Study Examining Message, Context, and Source Characteristics of Human Papilloma Virus (HPV) Vaccine-Related Tweets. *Health*, 12(9), 1105–1120. https://doi.org/10.4236/health.2020.129081
22. +Hawks, J. R., Madanat, H., Walsh-Buhi, E. R., Hartman, S., **Nara, A.**, Strong, D., & Anderson, C. (2020). Narrative review of social media as a research tool for diet and weight loss. *Computers in Human Behavior*, 111, 106426. https://doi.org/10.1016/j.chb.2020.106426
23. +Jin, C., ***Nara, A.**, Yang, J.-A., & Tsou, M.-H. (2019). Similarity measurement on human mobility data with spatially weighted structural similarity index (SpSSIM). *Transactions in GIS*, 24(1), 104–122. https://doi.org/10.1111/tgis.12590
24. +Seidl, D. E., Jankowski, P., Clarke, K. C., & **Nara, A.** (2020). Please Enter Your Home Location: Geoprivacy Attitudes and Personal Location Masking Strategies of Internet Users. *Annals of the American Association of Geographers*, 110(3), 586–605. https://doi.org/10.1080/24694452.2019.1654843
25. Gibbons, J., Malouf, R., Spitzberg, B., Martinez, L., Appleyard, B., Thompson, C., **Nara, A.**, & Tsou, M-H. (2019). Twitter-based measures of neighborhood sentiment as predictors of residential population health. *PLOS ONE*, 14(7), e0219550. https://doi.org/10.1371/journal.pone.0219550
26. Dony, C., **Nara, A.**, Rey, S., Solem, M., & Herman, T. (2019). Encoding Geography: Building Capacity for Inclusive Geo-Computational Thinking with Geospatial Technologies. *CSU Geospatial Review*, 16, 2–3.
27. +Chen, Y., Tsou, M-H., & **Nara, A.** (2019). Analyzing Transportation Big Data with GIS: Detecting Over-speeding Vehicles from Traffic GPS Data. *CSU Geospatial Review*, 16, 11–12.

28. +Seidl, D. E., Jankowski, P., & **Nara, A**. (2019). An empirical test of household identification risk in geomasked maps. *Cartography and Geographic Information Science*, 46(6), 475–488. https://doi.org/10.1080/15230406.2018.1544932
29. +Şalap, S., Jankowski, P., Clarke, K., Kyriakidis, P., & **Nara, A.** (2018). A Meta-Modelling Approach for Spatio-Temporal Uncertainty and Sensitivity Analysis: An Application for a Cellular Automata based Urban Growth and Land Use Change Model. *International Journal of Geographic Information Science*. 32(4), 637-662. https://doi.org/10.1080/13658816.2017.1406944
30. Gibbons, J., **Nara, A.**, & Appleyard, B. (2018). Exploring the imprint of social media networks on neighborhood community through the lens of gentrification. *Environment and Planning B: Urban Analytics and City Science*, 45(3), 470–488. https://doi.org/10.1177/2399808317728289
The Michael Breheny Prize for the Best Paper in Environment and Planning B in 2018 (received in Nov. 2019)
31. **Nara, A.**, Yang, X., Ghanipoor-Machiani, S., & Tsou, M-H. (2017). An Integrated Evacuation Decision Support System Framework with Social Perception Analysis and Dynamic Population Estimation. *International Journal of Disaster Risk Reduction*. 25, 190-201. https://doi.org/10.1016/j.ijdrr.2017.09.020
32. +Issa, E., Tsou, M-H., **Nara, A.,** & Spitzberg, B. (2017). Understanding the spatio-temporal characteristics of Twitter data with geotagged and non-geotagged content: two case studies with the topic of flu and Ted (movie). *Annals of GIS*. 23(3), 219-235. https://doi.org/10.1080/19475683.2017.1343257
33. Schiaffino, M., **Nara, A.**, & Liang, M. (2016). Language services in hospitals vary by ownership and location. *Health Affairs*, 35(8), 1399-1403. https://doi.org/10.1377/hlthaff.2015.0955
34. +Luo, N., An, L., **Nara, A.**, Yan, X., & Zhao, W. (2016). GIS-based multielement source analysis of dustfall in Beijing: A study of 40 major and trace elements. *Chemosphere*, 152, 123-131. https://doi.org/10.1016/j.chemosphere.2016.02.099
35. Yuan, M., **Nara, A.**, & Bothwell, J. (2014). Space–time representation and analytics. *Annals of GIS*, 20(1), 1-9. http://dx.doi.org/10.1080/19475683.2013.862301
36. Torrens, P. M., & **Nara, A.** (2012). Polyspatial agents for multi-Scale urban simulation and regional policy analysis. *Regional Science Policy & Practice*, 4(4), 419-445. https://doi.org/10.1111/j.1757-7802.2012.01084.x
37. Torrens, P. M., **Nara, A.**, Li, X., Zhu, H., Griffin, W. A., & Brown, S. B. (2012). An extensible simulation environment and movement metrics for testing walking behavior in agent-based models. *Computers, Environment and Urban Systems*, 36(1), 1-17. https://doi.org/10.1016/j.compenvurbsys.2011.07.005
38. Izumi, K., **Nara, A.**, Iseki, H., Suzuki, T., Nambu, K., Chinzei K., Murakawa, M., & Sakanasi, H. (2011). Workflow monitoring by data gathering from a surgical room and surgical strategic desk. *The Journal of the Institute of Electronics, Information and Communication Engineers*, 94(4), 288-293. https://ci.nii.ac.jp/naid/110008593838 [In Japanese].
39. Suzuki, T., **Nara, A.**, Sakurai, Y., Izumi, K., Nambu, K., & Iseki, H. (2009). Surgical control center. *International Journal of Computer Assisted Radiology and Surgery*, 4(Suppl.1), S232-S234. https://doi.org/10.1007/s11548-009-0341-y
40. Torrens, P. M., & **Nara, A.** (2007). Modeling gentrification dynamics: A hybrid approach. *Computers, Environment and Urban Systems*, 31(3), 337-361. https://doi.org/10.1016/j.compenvurbsys.2006.07.004
41. Kawabata, M., Iwata, O., Esaki, R., Kurata, Y., **Nara, A.**, Hamada, Y., & Yamazaki, Y. (2006). Investigation of Geographic Information Science education systems at 14 universities in North America. *Theory and Applications of GIS*, 14(2), 107-113. http://doi.org/10.5638/thagis.14.179 [In Japanese].

Refereed Book Chapters

1. **Nara, A.** (2021). Agent-Based Modeling. In B. Warf (Ed.), *Oxford Bibliographies in Geography*. Oxford University Press. https://doi.org/10.1093/obo/9780199874002-0236

2. [+]Huang, C.-C., ***Nara, A.**, Gibbons, J., & Tsou, M.-H. (2021). Exploring Gentrification Through Social Media Data and Text Clustering Techniques. In A. Nara & M.-H. Tsou (Eds.), *Empowering Human Dynamics Research with Social Media and Geospatial Data Analytics*. 237–256, Springer International Publishing. https://doi.org/10.1007/978-3-030-83010-6_13
3. **Nara, A.** (2021). Introduction: Human Dynamics Research with Social Media and Geospatial Data Analytics. In A. Nara & M.-H. Tsou (Eds.), *Empowering Human Dynamics Research with Social Media and Geospatial Data Analytics*, 1–11, Springer International Publishing. https://doi.org/10.1007/978-3-030-83010-6_1
4. **Nara, A.**, Machiani, S. G., [+]Luo, N., [+]Ahmadi, A., [+]Robinett, K., [+]Tominaga, K., [+]Park, J., [+]Jin, C., Yang, X., & Tsou, M.-H. (2021). Learning Dependence Relationships of Evacuation Decision Making Factors from Tweets. In A. Nara & M.-H. Tsou (Eds.), *Empowering Human Dynamics Research with Social Media and Geospatial Data Analytics*, 113–138, Springer International Publishing. https://doi.org/10.1007/978-3-030-83010-6_7
5. Tsou, M.-H., [+]Zhang, H., [+]Park, J., **Nara, A.**, & Jung, C.-T. (2021). Spatial Distribution Patterns of Geo-tagged Twitter Data Created by Social Media Bots and Recommended Data Wrangling Procedures. In A. Nara & M.-H. Tsou (Eds.), *Empowering Human Dynamics Research with Social Media and Geospatial Data Analytics*, 257–273, Springer International Publishing. https://doi.org/10.1007/978-3-030-83010-6_14
6. Thompson, C. A., Ilango, S., Gibbons, J., **Nara, A.**, & Tsou, M.-H. (2019). Systematic Review of Geospatial Approaches to Breast Cancer Epidemiology. In D. Berrigan & N. A. Berger (Eds.), *Geospatial Approaches to Energy Balance and Breast Cancer*, 141-160. https://doi.org/10.1007/978-3-030-18408-7_7
7. **Nara, A.**, Tsou, M-H., [+]Yang, J-A., & [+]Huang C-C. (2018). The opportunities and challenges with social media and big data for research in human dynamics. In S-L. Shaw & D. Sui (Eds.), *Human Dynamics Research in Smart and Connected Communities*. https://doi.org/10.1007/978-3-319-73247-3_12
8. **Nara, A.** (2018). Space-Time GIS and Its Evolution. In: Huang, B. (Ed.), *Comprehensive Geographic Information Systems*. 1, 287-302. Oxford: Elsevier. http://dx.doi.org/10.1016/B978-0-12-409548-9.09626-3
9. **Nara, A.**, [+]Allen, C., & Izumi, K. (2017). Surgical Phase Recognition using Movement Data from Video Imagery and Location Sensor Data. In Griffith D., Chun Y., Dean D. (Eds.), *Advances in Geocomputation*. 229-237. Springer, Cham. https://doi.org/10.1007/978-3-319-22786-3_21
10. **Nara, A.** (2017). *Data Model, Moving Objects*. In Richardson, D., Castree, N., Goodchild, M. F., Kobayashi, A., Liu, W., Marston, R. A., & Al-Hindi, K. F. (Eds.) *International Encyclopedia of Geography: People, the Earth, Environment, and Technology*. pp. 1–9. John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118786352.wbieg0896
11. Yuan, M., & **Nara, A.** (2015). Space-time Analytics of Tracks for the Understanding of Patterns of Life. In Kwan, M.-P., Richardson, D., Wang, D., Zhou, C. (Eds.) *Space-Time Integration in Geography and GIScience - Research Frontiers in the US and China*, 373-398. Springer Netherlands. https://doi.org/10.1007/978-94-017-9205-9_20
12. **Nara, A.**, Izumi, K., Iseki, H., Suzuki, T., Nambu, K., & Sakurai, Y. (2011). Surgical workflow monitoring based on trajectory data mining. In T. Onada, D. Bekki, & E. McCready (Eds.), *New Frontiers in Artificial Intelligence*, 283-291. Springer Berlin Heidelberg. https://doi.org/10.1007%2F978-3-642-25655-4_27
13. Griffin, W., Schmidt, S., **Nara, A.**, Torrens, P.M., & Sechler, C. (2007). Integrating ABM and GIS to model typologies of playgroup dynamics in preschool children. In M.J. North, C.M. Macal, and D.L. Sallach (eds.), *ABM2007: Complex Interaction and Social Emergence*. Argonne, IL, Argonne National Labs and University of Chicago, 17-24.

Refereed Proceedings

1. [+]Embury, J., **Nara, A.**, & Jin, C. (2022). Spatially weighted structural similarity index: A multiscale comparison tool for diverse sources of mobility data. *Proceedings of the 2nd ACM SIGSPATIAL International Workshop on Animal Movement Ecology and Human Mobility*, 19–22. https://doi.org/10.1145/3557921.3565542
2. [+]Park, J., [+]Zhang, H., Han, S. Y., **Nara, A.**, & Tsou, M.-H. (2020). Estimating Hourly Population Distribution Patterns at High Spatiotemporal Resolution in Urban Areas Using Geo-Tagged Tweets and Dasymetric Mapping. In K. Janowicz & J. A. Verstegen (Eds.), *Proceedings of the 11th International Conference on Geographic Information Science (GIScience 2021) - Part I*, v.177, p.10:1-10:16. Schloss Dagstuhl–Leibniz-Zentrum für Informatik. https://doi.org/10.4230/LIPIcs.GIScience.2021.I.10
3. **Nara, A.**, [+]Allen, C., & Izumi, K. (2015). Surgical Phase Recognition using Movement Data from Video Imagery and Location Sensor Data. *Proceedings of the 13th International Conference of Geocomputation 2015*, University of Texas at Dallas, TX.
4. **Nara, A.**, & Torrens, P.M. (2011). Trajectory Data Mining: Classification and Spatio-Temporal Visualization of Mobile Objects. In Cheng, T., Longley, P., Ellul, C., and Chow, A. (eds), *Proceedings of the 11th International Conference of Geocomputation 2011*, University College London, London, 338-344.
5. **Nara, A.**, Izumi, K., Iseki, H., Suzuki, T., Nambu, K., & Sakurai, Y. (2009). Trajectory data mining for surgical workflow analysis. In Lees, B.G. & Laffan, S.W. (eds), *Proceedings of the 10th International Conference on GeoComputation 2009*, UNSW, Sydney.
6. **Nara, A.**, Izumi, K., Iseki, H., Suzuki, T., Nambu, K., & Sakurai, Y. (2009). Surgical workflow analysis based on staff's trajectory patterns. *Proceedings of the 1st Workshop on Modeling and Monitoring of Computer Assisted Interventions (M2CAI).*
7. **Nara, A.**, Izumi, K., Iseki, H., Suzuki, T., Nambu, K., & Sakurai, Y. (2008). Spatial information technology to support the surgical headquarters. *Proceedings of the Japan society of computer aided surgery*, 10(3), 231-232. [In Japanese]
8. **Nara, A.** & Torrens, P.M. (2007). Spatial and temporal analysis of pedestrian egress behavior and efficiency. *Proceedings of Association of Computer Machinery (ACM) Advances in Geographic Information Systems*, 284-287.
9. **Nara, A.** & Torrens, P.M. (2007). Fractal Analysis of Pedestrian Egress Behavior and Efficiency. *Proceedings of the 9th International Conference on GeoComputation 2007*, National University of Ireland, Maynooth.
10. **Nara, A.** & Torrens, P.M. (2005). Simulating Inner-City Gentrification using Hybrid Models of Cellular Automata and Multi-Agent Systems. *Proceedings of the 8th International Conference on GeoComputation 2005*, University of Michigan, MI.

Refereed Abstracts

1. [+]Obrochta, C. A., Gibbons, J., **Nara, A.**, Murphy, J. D., & Thompson, C. A. (2020). Neighborhood disparities in timeliness of treatment for early stage lung cancer patients. *Journal of Clinical Oncology*, 38(15_suppl), e19017–e19017. https://doi.org/10.1200/JCO.2020.38.15_suppl.e19017
2. [+]Obrochta, C. A., **Nara, A.**, Murphy, J., & Thompson, C. A. (2020). Sociodemographic and geographic disparities in treatment for early-stage non-small cell lung cancer (NSCLC) patients in California. In: *Proceedings of the Twelfth AACR Conference on the Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved; Cancer Epidemiology and Prevention Biomarkers*, 29(6 Supplement 2), D077. https://doi.org/10.1158/1538-7755.DISP19-D077
3. [+]Obrochta, C. A., Murphy, J. D., **Nara, A.**, & Thompson, C. A. (2019). Disparities in receipt of guideline concordant treatment for early-stage non-small cell lung cancer (NSCLC) patients in California. *Journal of Clinical Oncology*, 37(27_suppl), 160–160. https://doi.org/10.1200/JCO.2019.37.27_suppl.160

Non-refereed Proceedings

1. **Nara, A.**, Izumi, K., Suzuki, T., & Iseki, H. (2010). Surgical workflow recognition by trajectory data mining. *Papers and Proceedings of the Geographic Information Systems Association*, 19. [In Japanese]
2. Izumi, K., & **Nara, A.** (2010). Trajectory driven segmentation of surgical procedures. *Proceedings of the Digital Human Symposium 2010*. Digital Human Research Center, National Institute of Advanced Industrial Science and Technology.
3. **Nara, A.**, & Izumi, K. (2009). Spatio-temporal behaviors during a neurosurgical operation. *Proceedings of the Digital Human Symposium 2009*. Digital Human Research Center, National Institute of Advanced Industrial Science and Technology.

Book Reviews

1. **Nara, A.** (2015). Book Review: Visual Analytics of Movement by Andrienko, G., Andrienko, N., Bak, P., Keim, D., and Wrobel, S. *Annals of GIS*.
2. **Nara, A.** (2015). Book Review: Big Data: Techniques and Technologies in Geoinformatics by Karimi, H.A. (ed.). *International Journal of Geographic Information Science*.

Other Research Articles and Technical Reports

1. León, K., Herman, T., Rey, S., Magdy, A., Solem, M., Russell, R., **Nara, A.**, & Dony, C. (2025). Encoding Geography Curriculum Planning Tool. Ann Arbor, MI: *Inter-university Consortium for Political and Social Research*, 2025-02-08. https://doi.org/10.3886/E218501V1
2. **Nara, A.**, & Velasco, M. (2024). Today's GIS Jobs Call for Geocomputational Skills. *Esri ArcNews*, 46(4), 28. https://www.esri.com/content/dam/esrisites/en-us/newsroom/arcnews/an-2024-46-4-fall.pdf
3. Embury, J. & **Nara, A**. (2022). Closing the Gap between Curriculum and the Professional Realities of the Geospatial Technology Industry. *AAG News*. https://www.aag.org/closing-the-gap-between-curriculum-and-the-professional-realities-of-the-geospatial-technology-industry/
4. Dony, C., **Nara, A.**, & Solem, M. (2022). Attracting students of all backgrounds to programs in geography or geocomputation starts before they enter college. *AAG Resources*. https://www.aag.org/attracting-students-of-all-backgrounds-to-programs-in-geography-or-geocomputation-starts-before-they-enter-college/
5. Ridder, L., **Nara, A.**, & Youngs, Y. (2022). Report of the Eighty-Third Annual Meeting: San Diego, California October 14–16, 2021. *Yearbook of the Association of Pacific Coast Geographers*, 84(84), 163–165. https://doi.org/10.1353/pcg.2022.0000
6. Jahangiri, A., Marks, C., Machiani, S. G., **Nara, A.**, Hasani, M., Cordova, E., Tsou, M.-H., & Starner, J. (2020). Big Data Visualization and Spatiotemporal Modeling of Risky Driving (No. 03–087). *TRID: the TRIS and ITRD database*. https://trid.trb.org/view/1729669
7. **Nara, A.** (2019). Challenges in Spatial Data Science and GeoComputation for Human Dynamic Research. *Position paper for the Spatial Data Science Symposium: Setting the Spatial Data Science Agenda*, Santa Barbara, CA, December 9-11.
8. **Nara, A**. (2015). A data mashup for understanding fine scale human dynamics. *Position paper for 2015 Summer Specialist Meeting on Representing Human Dynamics with Big Data, Social Media, and Social Networks in Hyperlocal Contexts*, August 11-12.
9. Yuan, M., Keesee, M., **Nara, A.**, Mouser, M., Greenwood, W. (2015). Geoshadow: Evaluating the Effectiveness of the ODOC's Location based Offender Monitoring System. *Technical Report*. Center for Spatial Analysis, University of Oklahoma.
10. **Nara, A.** (2014). Integrating of Big Data and Spatio-Temporal Analytics for Modeling Human Dynamics: An Agent-Based Simulation Approach. *Position paper for a specialist meeting on Human Dynamics in the Mobile Age: New Frontiers of Knowledge Discovery in Cyberspace and Big Data*, August 11-12.
11. Kawabata, M., Iwata, O., Esaki, R., Kurata, Y., **Nara, A.**, Hamada, Y., & Yamazaki, Y. (2007). Investigating geographic information science education systems at 14 universities in North America. In Murayama, Y., ed. *Establishment of GIScience Education Methods: How to Teach GIS at Universities*

Effectively, Interim Report on Research Results. Japan Society for the Promotion of Science, 104-110. [In Japanese]

12. Kuby, M., Chen, A., Joseph, L., Kelley, J., Kim, JG., **Nara, A.**, & Rupnow, J. (2006). Optimization of Transportation of Products from the Pastaza Region of Ecuador, *An Interim Report*. School of Geographical Science, Arizona State University.

Invited Presentations

1. **Nara, A.** (2023). SDRGC educator panel discussion to connect with the directors of various GIS degree and certificate programs around the county. *San Diego Regional GIS Council Meeting*, November 15, Palomar College.
2. **Nara, A.** (2019). Alert San Diego Request Tool (ART). *County of San Diego Innovation Day 2019*, County Operations Center, San Diego, CA, August 29.
3. **Nara, A.** (2019). Spatiotemporal Data Analytics on Large Event Data. *HDMA Lightning Talk Series*. Human Dynamics in the Mobile Age, San Diego State University, San Diego, CA, April 19.
4. Yuan, M., & **Nara, A.** (2017). Identify Movement and Interaction Patterns from Large GPS Data of Individual Entities (**Keynote presentation**). *The 2nd International Workshop on Interactive and Spatial Computing (IWISC)*, The University of Texas Dallas Institute for Interactive and Spatial Computing (UT-DIISC), April 13-14.
5. **Nara, A.**, Gibbons, J., & Appleyard, B. (2016). Examining Gentrification by Location-based Social Network Analysis. *2016 Summer Specialist Meeting on Human Dynamics and Big Data*, San Diego, CA, August 1-2.
6. **Nara, A.** (2016). Space-Time Analytics for Mining Behavior of Moving Objects. *Center for Business GIS and Spatial Analysis Speaker Series*, University of Redlands, May 25.
7. **Nara, A.** (2015). Spatial Analysis of Movement Patterns in Operating Rooms. *University Consortium for Geographic Information Science (UCGIS) Webinar Series*, December 3.
8. **Nara, A.** (2015). A data mashup for understanding fine scale human dynamics. *2015 Summer Specialist Meeting on Representing Human Dynamics with Big Data, Social Media, and Social Networks in Hyperlocal Contexts*, San Diego, CA, August 11-12.
9. **Nara, A.** (2015). Behavior mining from large moving object data. Big Data Science at SDSU. *Lightning Talks and Forums at the SDSU Student Research Symposium*, San Diego State University, San Diego, CA, March.
10. **Nara, A.** (2015). A cohesive space-time information framework for analyzing human dynamics in real and simulated environments. *Department of Geography Colloquium*, University of California Santa Barbara, Santa Barbara, CA, February.
11. **Nara, A.** (2014). Human Dynamics in the Mobile Age (HDMA): Modeling and Mining Human Dynamics. *Lunch-Time Lecture Series*. Institute for Behavioral and Community Health (IBACH), San Diego State University, San Diego, CA, December.
12. **Nara, A.** (2014). Integrating of Big Data and Spatio-Temporal Analytics for Modeling Human Dynamics: An Agent-Based Simulation Approach. *A specialist meeting on Human Dynamics in the Mobile Age: New Frontiers of Knowledge Discovery in Cyberspace and Big Data*, August 11-12.
13. **Nara, A.** (2014). Modeling and Mining Spatio-temporal Dynamics of Moving Objects. *HDMA Lightning Talk Series*. Human Dynamics in the Mobile Age, San Diego State University, San Diego, CA, April.
14. **Nara, A.** (2013). Track analysis of location based offender monitoring system. *National Institute of Justice, Technology Institute for Corrections*, Alexandria, VA, January.
15. **Nara, A.** (2012). Track analysis of location based offender monitoring system. *National Institute of Justice, Technology Institute for Corrections*, Washington D.C., August.
16. **Nara, A.** (2011). Track analysis of location based offender monitoring system. *National Institute of Justice, Technology Institute for Corrections*, Washington D.C., August.

17. **Nara, A.** (2008). Geographic Information Systems - tools for exploring spatial phenomena. *Center for Social Dynamics and Complexity*, Arizona State University, Tempe, AZ, April.
18. **Nara, A.** (2006). GIS and Agent-Based Models: application to gentrification dynamics. *School of Geographical Sciences*, Arizona State University, Tempe, AZ, October.

Conference Presentations

1. **Nara, A.**, & +Anderson, K. (2025). Examining Patterns and Trends in Unsheltered Homelessness Encampments Using Spatiotemporal Data Analytics. *Human Mobility, Vulnerable Population, and Homelessness Studies: Exploring Spatiotemporal Changes, Socio-Environmental Impacts, and GeoAI Applications, Association of American Geographers 2025 Annual Meeting*, Detroit, March 24-28.
2. +Velasco, M. & **Nara., A.** (2025). Spatial behavioral analysis and agent-based modeling of terminal passengers, case-study of San Diego International Airport. *AAG 2025 Symposium on Spatial AI & Data Science for Sustainability: Data- and Compute-Intensive Spatial Modeling for Complex Geographic Problems, Association of American Geographers 2025 Annual Meeting*, Detroit, March 24-28.
3. +Flores, C., **Nara, A.**, & +Velasco, M. (2025). Enhancing Agricultural Burn Detection in Arid Regions: A Multi-Index Approach for Real-Time Monitoring in the Mexicali Valley. *AAG Remote Sensing Specialty Group Student Illustrated Paper Competition, Association of American Geographers 2025 Annual Meeting*, Detroit, March 24-28. (Poster)
4. Dony, C.C., **Nara, A.**, León, K., +Embury, J., Herman, T., and +Velasco, M. (2024). Partnering on education research with teachers and with funding to measure aspirations of students. *National Council for Geographic Education 109th Annual Conference*, Tempe, AZ, October 18-20.
5. León, K., Herman, T., **Nara, A.**, +Embury, J., and Dony, C.C. (2024) Encoding Geography: Integrating Computer Science into Geography Instruction. *National Council for Geographic Education 109th Annual Conference*, Tempe, AZ, October 18-20.
6. +Embury, J. and **Nara, A.** (2024). Evaluating the Impact of Geocomputation Lessons on Secondary School Students' Perceptions of Geography and Computer Science. *Association of Pacific Coast Geographers 2024: 86th Annual Meeting*, Arcata, CA, October 3-5.
7. **Nara, A.**, +Kothapally, V., & +Swindell, C. (2024). Satellite-based Geo-AI modeling approach to estimate fine-scale agricultural burning emissions in the California-Mexico border region. *Association of American Geographers 2024 Annual Meeting*, Honolulu, April 16-20.
8. +Embury, J.., **Nara, A.**, Tsou, M-H., Rey, S., & Ghanipoor-Machiani, S. (2024). A. Detecting synthetic population bias using a spatially-oriented framework and independent validation data. *Association of American Geographers 2024 Annual Meeting*, Honolulu, April 16-20.
9. +Swindell, C. & **Nara, A.** (2024). The Impacts of COVID-19 on Retail Foot Traffic: An Event Study Approach. *Association of American Geographers 2024 Annual Meeting*, Honolulu, April 16-20.
10. **Nara, A.** & +Orenstein, N. (2023). Exploring human mobility and activity patterns before, during, and after the Covid-19 pandemic. *Association of American Geographers 2023 Annual Meeting*, Denver, March 23-27.
11. +Embury, J. & **Nara, A.** (2023). A Framework for the Comparative Analysis of Diverse Mobility Data. *Association of American Geographers 2023 Annual Meeting*, Denver, March 23-27.
12. +Jin, C., Park, S.., Ha, H-J, Lee, J., Kim, J., Hutchenreuther, J., & **Nara, A.** (2023). Predicting Households' Residential Mobility Trajectories: A Geographically Localized Interpretable Model-agnostic Explanation. *Association of American Geographers 2023 Annual Meeting*, Denver, March 23-27.
13. +Smith, D. & **Nara, A.** (2023). A Spatial Analysis of Connected Autonomous Vehicle (CAV) Safety. *Association of American Geographers 2023 Annual Meeting*, Denver, March 23-27. (Poster)
14. **Nara, A.** (2022). A Multi-scale data-driven analysis on human mobility and its impacts during the COVID-19 pandemic. *Association of American Geographers 2022 Annual Meeting*, New York, February 15- March 1.

15. Yang, J-A., **Nara, A.**, and Jankowska, M. (2022). Data-Driven Understanding of Local Food Environment with Crowd-Sourced Business Reviews. *Association of American Geographers 2022 Annual Meeting*, New York, February 15- March 1.
16. **Nara, A.** & +Embury, J. (2022). Bridging the Geography Education Gap between K-12 and College (Encoding Geography imitative): A survey of Geocomputation Professionals. *Association of American Geographers 2022 Annual Meeting*, New York, February 15- March 1.
17. **Nara, A.**, Herman, T., +Embury, J., Ray, Waverly., Russell, R., León, K., Dony, C., Magdy, A., Rey, S., Solem, M., Vander Weil, B. (2021). Geography and Computer Science: Building Diversity and Inclusion in Geocomputation Education and Careers. *Association of Pacific Coast Geographers 2021: 83rd Annual Meeting*, October 14-16.
18. **Nara, A.** (2021). Examining the neighborhood-scale human mobility and its potential impacts on COVID-19 outbreak. *Association of American Geographers 2021 Annual Meeting* (Virtual Conference), April 7-11.
19. +Mier, I., +Patidar, K., ***Nara, A.** (2021). Examining the neighborhood-scale human mobility in response to facility closure and reopening during COVID19 pandemic. *Association of American Geographers 2021 Annual Meeting* (Virtual Conference), April 7-11.
20. Dony, C., **Nara, A.**, Herman, T., Solem, M., León, K., Rey, S., (2021). Encoding Geography: Modernizing geography education in high school and college using the RPP approach. *Association of American Geographers 2021 Annual Meeting* (Virtual Conference), April 7-11.
21. **Nara, A.**, Herman, T., Dony, C., Solem, M., Rey, S., & Magdy, A. (2019). Researcher-Practitioner Partnership for Developing Inclusive Learning Pathways toward Geocomputation Thinking: A Case Study in Southern California. *2019 Association of Pacific Coast Geographers Annual Meeting*, Flagstaff, AZ, October 16-19.
22. Dony, C., **Nara, A.**, Solem, M., Herman, T., Rey, S., & Magdy, A. (2019). AAG Geography Student Recruitment and Career Resources Workshop. *2019 Association of Pacific Coast Geographers Annual Meeting*, Flagstaff, AZ, October 16-19.
23. **Nara, A.**, +Luo, N., Ghanipoor Machiani, S., +Ahmadi, A., +Tominaga, K., & Tsou, M-H. (2019). Examining human decision making factors toward wildfire evacuation using Twitter. *Social Media & Society 2019*, Toronto, Canada, July 20-21.
24. +Jain, P., **Nara, A.**, Gibbons, J., & Thompson, C. (2019). Identifying Spatial Patterns and Predictors of Liver Cancer Incidence within Small Geographic Areas in California. *Society for Epidemiologic Research 52nd Annual Meeting*, Minneapolis, MN, June 18-21, 2019.
25. **Nara, A.** (2019). Data Analytics on Large Spatiotemporal Event Datasets. *Association of American Geographers 2019 Annual Meeting*, Washington D.C., April 3-7.
26. +Luo, N. & **Nara, A.** (2019). An Activity-based Method to Simulate Finer-scale Human Daily Movment. *Association of American Geographers 2019 Annual Meeting*, Washington D.C., April 3-7.
27. Dony, C., Magdy, A., Rey, S., **Nara, A.**, Herman, T., & Solem, M. (2019). RPP for geocomputation: partnering on curriculum in geography and computer science. *RESPECT (Research on Equity & Sustained Participation in Engineering, Computing, & Technology) 2019*, Minneapolis, MN, February 27. (Poster)
28. +Dozier, J., McFarland, K., Ghanipoor-Machiani, S., **Nara, A.**, Yang, X., & Tsou, M-H. (2019). Improve Disaster Communication in Hyperlocal Online and Offline Communities Using Social Media: A Case Study of the 2015 Nepal Earthquake. *The 2019 Transportation Research Board (TRB) Annual Meeting*, Washington D.C., January 13-17. (Poster)
29. +Hawks, J. R., Mendoza-Vasconez, A., **Nara, A.**, Walsh-Buhi, E.R., & Madanat, H. (2019). Diet on Instagram: A Case Study of What People Post When Trying to Lose Weight. *Society for Behavioral Medicine 40th Annual Meeting and Scientific Sessions 2019*, Washington, D.C., March 6-9. (Poster)
30. Kinoshita, A., **Nara, A.**, and +Luo, N. (2018). Exploring spatial and temporal trends between wildfires, climate, and human development in the contiguous United States. *American Geophysical Union (AGU) 2018 Fall Meeting*, Washington, D.C., December 10-14. (Poster)

31. [+]Jin, C., **Nara, A.**, Tsou, M-H., Gibbons, J., Murphy, J., & Thompson, C. (2018). Identifying geographic disparities in breast cancer mortality in California. *American Public Health Association (APHA) 2018 Annual Meeting & Expo*, San Diego, CA, November 10-14.
32. Oren, E., Purnajo, I., Martinez, L., Islam, T., Hensley, E., Jain, P., **Nara, A.**, & Tsou M-H. (2018). Using Social Media to Complement Hepatitis A Outbreak Efforts. *American Public Health Association (APHA) 2018 Annual Meeting & Expo*, San Diego, CA, November 10-14.
33. [+]Jin, C., [*]**Nara, A.**, Yang, J-A, & Tsou, M-H. (2018). Similarity Measurement on Human Mobility Data with Spatially Weighted Structural Similarity Index: A Case Study to Compare Mobility Data from Twitter and LODES. *Center for Human Urban Mobility Summit (CHUM)*, UC San Diego, San Diego, CA, September 20. (Poster)
34. Tsou, M-H., [+]Zhang, H., [+]Park, J., **Nara, A.**, & Jung, C-T (2018). Spatial Distribution Patterns of Geo-tagged Twitter Data Created by Social Media Bots and Recommended Data Wrangling Procedures. *10th International Conference on Geographic Information Science (GIScience 2018)*, Melbourne, Australia, August 28-31.
35. **Nara, A.** (2018). AlertSanDiego Request Tool (ART) for Real-time Emergency Area Labeling. *2018 Summer Specialist Meeting on Analyzing Social Perception and Amplification using Social Media and Big Data in Human Dynamics*, San Diego, CA, August 7-8.
36. **Nara, A.** (2018). Examining fine-scale human mobility extracted from geotagged social media data. *New Horizons in Human Dynamics Research: Social Media and Big Data, Association of American Geographers 2018 Annual Meeting*, New Orleans, LA, April 10-14.
37. [+]Luo, N. & **Nara, A.** (2018). Microsimulation of Human Daily Activities Integrating Social Media and Survey Data. *New Horizons in Human Dynamics Research: Social Media and Big Data, Association of American Geographers 2018 Annual Meeting*, New Orleans, LA, April 10-14.
38. [+]Jin, C. & **Nara, A.** (2018). Flows Extracted from Geotagged Social Media using Spatial Structural Similarity Index. *New Horizons in Human Dynamics Research: Social Media and Big Data, Association of American Geographers 2018 Annual Meeting*, New Orleans, LA, April 10-14.
39. [+]Zhang, Q., Tsou, M-H., **Nara, A.**, & Gawron, J. (2018). Building Dynamic Ontological Models for Place Names using Social Media Data from Twitter and Sina Weibo. *New Horizons in Human Dynamics Research: Social Media and Big Data, Association of American Geographers 2018 Annual Meeting*, New Orleans, LA, April 10-14.
40. Tsou, M-H., **Nara, A.**, Jahangiri, A., & Ghanipoor-Machiani, S. (2018). Developing web-based spatiotemporal analytics software tools for analyzing connected vehicle data and aggressive driving behaviors. *The first workshop on the Geospatial Software: Connecting Big Data with Geospatial Discovery and Innovation*, University of Southern California, Los Angeles, CA, January 28-30.
41. Yang, X., Zhang, Z., Tsou, M., Ghanipoor-Machiani, S., & **Nara, A.** (2018). Development of Integrated Wildfire Evacuation Decision Support System (IWEDSS) with Population Density Distribution and Robust Optimization Framework. *97th Transportation Research Board Annual Meeting*, Washington D. C., January 7-11.
42. **Nara, A.** (2017). Prototype Design and User Needs for an Integrated Wildfire Evacuation Decision Support System. *2017 Summer Specialist Meeting on Social Media Analytics and Decision Support Systems: Applications to Public Health and Crisis Management*, San Diego, CA, August 15-16.
43. [+]Herndon, D. & **Nara, A.** (2017). Street Sign & Stop Sign Map Layers. *2017 Sage Symposium*, San Diego State University, San Diego, CA, April 24. (Poster)
44. [+]Brown, K. & **Nara, A.** (2017). Bike Lane Network Plan – Mapping Bikeability Routes across the City of Lemon Grove. *2017 Sage Symposium*, San Diego State University, San Diego, CA, April 24. (Poster)
45. **Nara, A.**, Gibbons, J., & Appleyard, B. (2017). Location-based social networks to examine urban dynamics. *Symposium on Human Dynamics in Smart and Connected Communities: Social Media and Big Data, Association of American Geographers*, 2017 Annual Meeting, Boston, MA, April 10-14.
46. [+v]Huang, C-C., & **Nara, A.** (2017). A social media data mining approach to identify sense of gentrification. *Symposium on Human Dynamics in Smart and Connected Communities: Social Media*

and Big Data, Association of American Geographers, 2017 Annual Meeting, Boston, MA, April 10-14.

47. Schiaffino, M. and **Nara, A.** (2016). Social-Spatial Organizational Factors Associated with Hospital Patient-Provider Communication Outcomes. *2nd International Conference Systems and Complexity in Health*, Billings Clinic, Billings, MT, November 9-10. (Poster)
48. Tsou, M-H., +Han, S., **Nara, A.**, Gibbons, J., & Thompson, C.A. (2016). An Interactive Web Mapping Tool for Visualizing Cancer Disparities with Socioeconomic Variables. *Conference on Geospatial Approaches to Cancer Control and Population Sciences*, Natcher Conference Center, NIH Campus, Bethesda, MD, September 12-14.
49. +Ilango, S., Torres, K., Doshi, V., Obrochta, C., Tsou, M-H., **Nara, A.**, Gibbons, J., Han, S., Gomez, S., Shariff-Marco, S., & Thompson, C.A. (2016). A systematic review of research utilizing geospatial analytic approaches to describe and understand the burden of screening-detectable cancers in the United States. *Conference on Geospatial Approaches to Cancer Control and Population Sciences*, Natcher Conference Center, NIH Campus, Bethesda, MD, September 12-14.
50. Schiaffino, M., **Nara, A.**, Wood, J., & Walsh, Thom. (2016). A systems approach to predicting healthcare failures. *Research and Advancements in System Engineering methods for the 21st century, INCOSE (International Council on Systems Engineering) Regional Mini-Conference 2016*, Loyola Marymount University, Los Angeles, CA, April 9-10.
51. **Nara, A.** (2016). Space-time data analytics for modeling fine-scale dynamics. Symposium on Human Dynamics Research: *Modeling Human Dynamics, Association of American Geographers, 2016 Annual Meeting*, San Francisco, CA, March 29 - April 2.
52. +Luo, N., **Nara, A.**, & +Huang, C-C. (2016). Modeling friendship and interaction in social networks using Bayesian inference. *Symposium on Human Dynamics Research: Social Media and Big Data, Association of American Geographers, 2016 Annual Meeting*, San Francisco, CA, March 29 - April 2.
53. +Huang, C-C., **Nara, A.**, Gibbons, J., & Luo, N. (2016). Using Instagram data for measuring gentrification dynamics: Alternative way to identify gentrification typology. *Symposium on Human Dynamics Research: Social Media and Big Data, Association of American Geographers, 2016 Annual Meeting*, San Francisco, CA, March 29 - April 2.
54. Buhi, E. R., +Hawks, J., Rezai, R., Dorsey, K., Salgin, L., **Nara, A.**, & Wells, K. (2015). Expanding boundaries in sexual health research: A case study of sentiment toward the HPV vaccine on Twitter. *Society for the Scientific Study of Sexuality Annual Meeting*, Albuquerque, NM, November, 2015.
55. **Nara, A.**, +Allen, C., & Izumi, K. (2015). Surgical Phase Recognition using Movement Data from Video Imagery and Location Sensor Data. *GeoComputation 2015*, University of Texas at Dallas, Dallas, TX, May 20-23.
56. **Nara, A.** (2015). A GPGPU approach for simulating and analyzing human dynamics. *Association of American Geographers, 2015 Annual Meeting*, Chicago, IL, April 21-25.
57. **Nara, A.** (2014). Integrating of Big Data and Spatio-Temporal Analytics for Modeling Human Dynamics: An Agent-Based Simulation Approach. *Human Dynamics in the Mobile Age (HDMA): New Frontiers of Knowledge Discovery in Cyberspace and Big Data, 2014 Summer Specialist Meeting*, San Diego, CA, August 11-12.
58. **Nara, A.**, Yuan, M., Keesee, M., Greenwood, W., Mouser, M., & Floyd, G. (2014). Discovering activity space from GPS tracks. *Association of American Geographers, 2014 Annual Meeting*, Tampa, FL, April 8-13.
59. Zhang, Y., **Nara, A.**, & Yuan, M. (2014). Modeling and simulating complex driving behaviors and urban traffic phenomena. *Association of American Geographers, 2014 Annual Meeting*, Tampa, FL, April 8-13.
60. Yuan, M., **Nara, A.**, Keesee, M., & Drake, G. (2013). Online Analysis Tools for GPS Offender Monitoring. *American Probation and Parole Association, 38th Annual Training Institute*, Baltimore, MD, July 28-31.
61. **Nara, A.**, Keesee, M., Greenwood, W., Denney, M., & Yuan, M. (2013). Space-Time Analytics of Movement Patterns from GPS data. *Association of American Geographers, 2013 Annual Meeting*, Los

Angeles, CA, April 9-13.

62. Yuan, M., & **Nara, A.** (2013). Criminogenic Places. *Association of American Geographers, 2013 Annual Meeting*, Los Angeles, CA, April 9-13.
63. **Nara, A.**, Keesee, M., Lei, T., Redden, J., Denney, M., & Yuan, M. (2012). Spatio-Temporal Analysis of GPS Tracks and Spatial Behavior. *Association of American Geographers, 2012 Annual Meeting*, New York, NY, February 24-28.
64. Haojie, Z., Torrens, P.M., & **Nara, A.** (2012). An Agent-Based Simulation Framework for Emergency Evacuation." *Association of American Geographers, 2012 Annual Meeting*, New York, NY, February 24-28.
65. **Nara, A.**, & Torrens, P.M. (2011). Trajectory Data Mining: Classification and Spatio-Temporal Visualization of Mobile Objects. *GeoComputation 2011*, University College London, London, UK, July 20-22.
66. Yuan, M., **Nara, A.**, Keesee, M., Redden, J., & Meredith, D. (2011). Development of Space-Time Analytic Tools for GPS Offender Tracking. *The 2011 NIJ Conference: Translational Criminology – Shaping Policy and Practice with Research*, Arlington, VA, June 20-22.
67. **Nara, A.**, Keesee, M., Redden, J., Meredith, D., & Yuan, M. (2011). GPS track analysis to facilitate location-based offender monitoring. *The 2011 NIJ Conference: Translational Criminology – Shaping Policy and Practice with Research*, Arlington, VA, June 20-22. (Poster)
68. **Nara, A.**, Izumi, K., Suzuki, T., & Iseki, H. (2010). Surgical workflow recognition by trajectory data mining. *The 19th Annual Meeting of the Geographic Information Systems Association of Japan, Ritsumeikan University*, Kyoto, Japan, October 24.
69. **Nara, A.**, Izumi, K., Iseki, H., Suzuki, T., Nambu, K., & Sakurai, Y. (2009). Trajectory data mining for surgical workflow analysis. *The 10th International Conference on GeoComputation*, University of New South Wales, Sydney, Australia, December 1.
70. **Nara, A.**, Izumi, K., Iseki, H., Suzuki, T., Nambu, K., & Sakurai, Y. (2009). Surgical workflow analysis based on staff's trajectory patterns. *The 1st Workshop on Modeling and Monitoring of Computer Assisted Interventions (M2CAI)*. Imperial College, London, UK, September 20.
71. Torrens, P.M., McDaniel, A., & **Nara, A.** (2009). Modeling complex crowds with anti-social agents. *Association of American Geographers 2009*. Las Vegas, NV, USA, March 26.
72. Suzuki, T., **Nara, A.**, Sakurai, Y., Izumi, K., Nambu, K., & Iseki, H. (2009). Safe Surgery based on Surgical Monitoring System. *The 18th Conference on Neurosurgical Techniques and Tools.* Akita, Japan, April 24.
73. **Nara, A.**, Izumi, K., Iseki, H., Suzuki, T., Nambu, K., & Sakurai, Y. (2008). Spatial information technology to support the surgical headquarters, *The 17th Conference on Japan society of computer aided surgery*, Tokyo Womens Medical University, Tokyo, Japan, October 31-November 2.
74. **Nara, A.**, & Torrens, P.M. (2008). A space-time toolkit for mining movement behavior in geosimulation. *Association of American Geographers, 2008 Annual Meeting*, Boston, MA, April 15-19.
75. Zhu, H., **Nara, A.**, Brown, S., & Torrens, P.M. (2008). An OpenGL Visualization and Analysis Framework for Time Geography." *Association of American Geographers, 2008 Annual Meeting*, Boston, MA, April 15-19.
76. Brown, S., Torrens, P.M., **Nara, A.**, & Zhu, H. (2008). Wayfinding simulation and complexity: A case for cognizance. *Association of American Geographers, 2008 Annual Meeting*, Boston, MA, April 15-19.
77. **Nara, A.**, & Torrens, P.M. (2007). Spatial and temporal analysis of pedestrian egress behavior and efficiency. *15th ACM International Symposium on Advances in Geographic Information Systems (ACM GIS 2007)*, Seattle, WA, November 7-9. (Poster)
78. **Nara, A.**, & Torrens, P.M. (2007). Fractal Analysis of Pedestrian Egress: Behavior and Efficiency. *Geocomputation 2007*, Maynooth, Ireland, September 3-5.
79. Griffin, W.A., Schmidt, S.K., **Nara, A.**, Torrens, P.M., Fewell, J.H., & Sechler, C.M. Modeling time, space, and behavior: combining ABM & GIS to create typologies of playgroup dynamics in preschool children. *North American Computational Social and Organizational Science (NAACSOS)*, Atlanta, GA.

June 6.

80. **Nara, A.**, & Torrens, P.M. Simulating Inner-City Gentrification using Hybrid Models of Cellular Automata and Multi-Agent Systems. *Geocomputation 2005*. University of Michigan, Ann Arbor, MI, August 1-3.

Scholarly Awards, Fellowship

1. 2024 Most Influential Faculty Award, AY2023-24, Department of Geography, SDSU.
2. 2021 Most Influential Faculty Award, AY2020-21, Department of Geography, SDSU.
3. 2019 The Michael Breheny Prize for the 2018 Best Paper in *Environment and Planning B*.
4. 2019 Tenure-Track Faculty CAL Excellence in Research Award for the Humanities and Social Sciences, AY2018-19, College of Arts and Letters, SDSU.
5. 2015 NSF Early Career Participants Support for the Geocomputation 2015 conference.
6. 2015 Grants and Research Enterprise Writing (GREW) Professors Helping Professors Mentorship Module, Vice President for Research - SDSU.
7. 2014 Grants and Research Enterprise Writing (GREW) Fellowship, 2014 – 2015, SDSU.
8. 2007 Travel Grant, Division of Graduate Studies, Arizona State University.
9. 2005 Travel Grant, School of Geographical Science, Arizona State University.

Funded Research Grants - Extramural

1. $450,000 - *Analyzing Spatiotemporal Changes and Socio-Environmental Impacts of the Homeless Population in a U.S. Border Region and Creating a Homeless and Health Equality Research Consortium*, **Co-PI**, National Science Foundation (SES-B2), 09/01/2024 – 08/31/2027.
2. $26,657,619 - SDSU Health Center for Transdisciplinary Health Disparities Research, **Co-Investigator**, National Institute of Health (NIMHD), 09/01/2024 – 08/31/2029.
3. $274,727 - *SBIR Phase I: Integrating deep learning algorithms for UAS-based infrastructure inspection: Path to fully automated, commercially viable and scalable monitoring*, **Co-Investigator**, National Science Foundation (TI Translational Impacts), 07/15/2024 – 01/31/2025.
4. $235,000 - *Improving Mexico Biomass Burning Estimates*, **Co-PI**, California Air Resource Board, 05/01/2023 – 04/30/2025.
5. $19,996 - *Encoding Geography - Scaling up an RPP to achieve inclusive geocomputational education*, **PI**, National Science Foundation (CNS-CS4All), Research Experience for Teachers (RET), 01/01/2021 – 12/31/2024.
6. $49,998 - *CIVIC-PG Track B Walk to Healthy Foods: Modeling Community-Based Assets to Increase Healthy Food Access in Underserved Communities*, **Senior Personnel**, National Science Foundation (CNS), 10/01/2022 – 03/31/2023.
7. $400,000 - *Collaborative Research: Encoding Geography - Scaling up an RPP to achieve inclusive geocomputational education*, **PI**, National Science Foundation (CNS-CS4All), Acceptant Rate: 12-20%, 01/01/2021 – 12/31/2024.
8. $12,369 - *Integrating Novel GIS and GPS Data*, **PI**, University of California – San Diego, 04/09/2020 – 03/31/2023.
9. $17,995 - *Developing AlertSanDiegoResponse Tool (ART) for Facilitating Emergency Evacuation Decision-Making*, **PI**, Perspecta, 05/01/2019-09/30/2020.
10. $299,989 - *Encoding Geography: Building Capacity for Inclusive GeoComputational Thinking with Geospatial Technologies*, **Co-PI (Subcontract PI at SDSU)**, National Science Foundation (CSforAll), Acceptant Rate: 20%, PI: Coline Dony, 11/01/2018 – 10/31/2020.
11. $4,364,734 - *SDSU HealthLINK Center for Transdisciplinary Health Disparities Research*, **Co-Investigator**, National Institute of Health, MPI: Ayala, G.X. and Wells, K., 09/11/2018 – 05/31/2023.
12. $20,000 - *Encoding Geography Research Coordination Network (EG-RCN): Building Capacity for Inclusive Geo-Computational Thinking at the College Level*, **Co-Investigator**, National Center for Research in Geography Education (NCRGE), PI: Coline Dony, 07/01/2018 – 06/30/2019.

13. $280,672 - *Big Data Visualization and Spatiotemporal Modeling of Aggressive Driving*, **Co-PI**, Safety through Disruption (SAFE-D), University Transportation Center (UTC), PI: Jahangiri, A., 02/01/2018 – 06/01/2019.
14. $15,987 - Integrated Stage-based Evacuation with Social Perception Analysis and Dynamic Population Estimation, **Co-PI**, National Science Foundation (CMMI-IMEE), REU (Research Experiences for Undergraduates) Supplement, PI: Tsou, M-H. 03/20/2017 – 08/31/2019.
15. $150,000 - *Improving the CalEnviroScreen score at the US-Mexico border*, **Co-PI**, Air Resources Board, California Environmental Protection Agency, PI: Quintana, P.E., 03/15/2017 – 03/14/2019.
16. $31,259 - *Is it race, or place? Disentangling racial, socioeconomic and geographic disparities in the cancer burden of San Diego and Imperial counties*, **Co-Investigator**, University of California at San Diego, MPI: Thompson, C. and Murphy, J. 01/01/2017 – 03/23/2018.
17. $449,202 - *Integrated Stage-based Evacuation with Social Perception Analysis and Dynamic Population Estimation*, **Co-PI**, National Science Foundation (CMMI-IMEE), Acceptant Rate: 10%, PI: Tsou, M-H. 09/01/2016 – 08/31/2020.
18. $10,000 - *Visualizing socioeconomic and racial disparities in the burden of screening detectable cancers using GIS and web mapping tools*, **Co-Investigator**, SDSU/UCSD Cancer Center Partnership, MPI: Thompson, C. and Murphy, J. 03/01/2016 – 08/01/2016.
19. $1,162,576 - *Developing and Evaluating the Effectiveness of the Location-based Offender Monitoring System for Offender Supervision*, **Post-Doctoral Research Associate**, PI: Yuan, M. 12/01/2010 – 09/30/2014.

Funded Research Grants – Intramural

1. $500 - *Exploring human mobility and activity patterns before, during, and after the Covid-19 pandemic*. PI, College of Letters and Arts, San Diego State University (Microgrant), Spring 2023
2. $40,000 – SDSU Center and Institute Funding Proposal for The Center for Human Dynamics in the Mobile Age, **Co-PI**, Division of Research and Innovation - San Diego State University.
3. $3,000 – *Examining Dynamic Population Distribution and Human Risk Perception by Geospatial Big Data Analytics*, **PI**, Vice President for Research - San Diego State University (Summer Undergraduate Research Program), Summer 2018
4. $500 - *Social media and big data mining to analyze human and gentrification dynamics*, **PI**, College of Letters and Arts, San Diego State University (Microgrant), Spring 2018
5. $3,000 - *Applying geospatial and mobile technologies to map the structure of health care delivery networks*, **PI**, Vice President for Research - San Diego State University (Summer Undergraduate Research Program), Summer 2015

Funded Training Grants

1. $5,152 – Completion of Research and Creative Activity (CORE) Fellowship (SDSU), Advisee: Jessica Embury, Faculty Mentor, 08/2022 – 05/2023
2. $25,000 – University Graduate Fellowship (UGF), Advisee: Jessica Embury (SDSU), Faculty Mentor, 09/2022 – 08/2023
3. $10,000 – Master's Research Scholarship (MRS), Advisee: Jessica Embury (SDSU), Faculty Mentor, 09/2021 – 08/2022
4. $3,000 – Summer Undergraduate Research Program (SDSU), Advisee: Ken Tominaga, 06/2018-08/2018
5. $2,999 – Summer Undergraduate Research Program (SDSU), Advisee: Timothy Schempp, 06/2015-08/2015

Participation in Professional Associations

1. GIS Association of Japan (2010 – present)
2. American Association of Geographers (AAG) (2007 – present)

3. The Association of Pacific Coast Geographers (APCG) (2020 – present)
4. Association for Computing Machinery (ACM) (2022 – 2024)

TEACHING EFFECTIVENESS

Courses Taught

1. **Fall 2014 – present: San Diego State University**
   - **GEOG 383 – GIS Scripting Fundamentals**
   - **GEOG 484 – Introduction to Geographic Information Systems**
   - **GEOG 580 – Data Management for GIS**
   - **GEOG 582 – Introduction to GIS Programming with Python**
   - **GEOG 584 – Methods and Applications of Geographic Information Systems**
   - **GEOG 683/683L – Advanced Geographic Information Systems**
   - **GEOG 780 – Seminar: Geocomputation**
   - **GEOG 797 – Research**
   - **GEOG 798 – Special Study**
   - **GEOG 799 – Thesis**
   - **GEOG 897 – Doctoral Research**
   - **GEOG 899 – Doctoral Dissertation**

2. **Fall 2011 – Spring 2012: University of Maryland, College Park**
   - **GEOG 170 – Introduction to Methods of Geospatial Intelligence and Analysis**

3. **Guest Lectures**
   - BDA 600 - Big Data Analytics Capstone Seminar. Spatiotemporal Data Analytics (2021-2025)
   - Geography of Japan, Japan Studies Institute, American Association of State Colleges and Universities (AASCU). SDSU (2015-2019; 2022)
   - GEOG 590 - Human-Environment Dimensions of COVID-19. COVID Impacts on Human Mobility (2022)
   - GEOG 701 – Seminar in Development of Geographic Thought. Modeling and Mining Spatio-Temporal Dynamics of Moving Objects. SDSU (2014)
   - GEOG 5990 – Selected Studies in Geography. University of Oklahoma (2013)
   - GIS 5970 – Graduate Seminar in Geoinformatics. University of Oklahoma (2012-2013)
   - RCPL 5463 – Computer Mapping and GIS in Planning. Trajectory Analysis and GIS. Division of Regional & City Planning, University of Oklahoma (2013)
   - GIS 2013 – Introduction to Geoinformatics. University of Oklahoma (2012)

List of students supervised and currently supervising

Ph.D. student advising (committee chair/advisor):

In progress (2)

- Christopher Swindell (Geography, Joint Doctoral Program, SDSU-UCSB)
  Dissertation Title: TBD
- Jessica Embury (Geography, Joint Doctoral Program, SDSU-UCSB)
  Dissertation Title: TBD

Completed (2)

- Chanwoo Jin (Geography, Joint Doctoral Program, SDSU-UCSB); Assistant Professor, GIS and Geography in the Department of Humanities and Social Sciences, Northwest Missouri State University.
  Understanding Human Mobility and Urban Dynamics with Big Geospatial Data Analytics (Fall 2022)

- Nana Luo (Geography, Joint Doctoral Program, SDSU-UCSB); Assistant Professor, School of Geomatics and Urban Information, Beijing University of Civil Engineering and Architecture, Beijing, China)
  A model-based evaluation of the impacts of human behavior on vector-borne disease transmissions: Implications for disease prevention and control (Fall 2020)

Ph.D. student advising (committee member):

In progress (4)

- Xu Jian (Geography, Joint Doctoral Program, SDSU-UCSB)
- Reza Mortaheb (Geography, Joint Doctoral Program, SDSU-UCSB)
- Xiangyi Zhu (Geography, Joint Doctoral Program, SDSU-UCSB)
- Brendan Vander Weil (Geography, Texas State University)

Completed (8)

- Jaehee Park (Geography, Joint Doctoral Program, SDSU-UCSB)
  The Role of Big Data in Understanding Urban Dynamics: Social Sensing, Mobility Patterns, and Place Connectivity during the COVID-19 Pandemic (Fall 2024)
- Farrah Powell (Geography, Joint Doctoral Program, SDSU-UCSB)
  Current and Future Adaptation to a Changing Climate in the California Market Squid and California Spiny Lobster Fisheries (Spring 2024)
- Andy Loerch (Geography, Joint Doctoral Program, SDSU-UCSB)
  Improving disaster response with aerial imagery through UAS-based image acquisition and analysis, artificial intelligence, and timeliness assessment (Fall 2022)
- Chelsea Obrochta (Public Health, Joint Doctoral Program, SDSU-UCSD)
  Identifying geospatial-, neighborhood- and healthcare system-related drivers of racial and ethnic disparities in lung cancer treatment in California (Fall 2021)
- Jessica Hawks (Public Health, Joint Doctoral Program SDSU-UCSD)
  Instagram for diet and weight loss research (Summer 2019)
- Seda Şalap (Geography, Joint Doctoral Program, SDSU-UCSB)
  Spatially Explicit Uncertainty & Sensitivity Analysis Methods for Land-Use Models (Summer 2018)
- Dara Seidl (Geography, Joint Doctoral Program, SDSU-UCSB)
  Geoprivacy: Location Making Strategies and Personal Identification Risk (Spring 2018)
- Su Han (Geography, Joint Doctoral Program, SDSU-UCSB)
  Discovering Spatial Relationships between Cyberspace and Real Space, and Reexamining Theories in Geography with Social Media and Big Data (Summer 2016)

Master student advising (committee chair/advisor):

In progress (3)

- Christopher Flores (M.S. in GIScience, Geography, SDSU)
- Valerie Neale (M.S. in GIScience, Geography, SDSU)
- Matthew Velasco (M.S. in GIScience, Geography, SDSU

Completed (10)

- Jeremy Dang (M.S. Big Data Analytics, SDSU, completed in Fall 2024)
- Vijaybhaskar Kothapally (M.S. Big Data Analytics, SDSU, completed in Spring 2024)
- Jessica Embury (M.S. in GIScience, Geography, SDSU)
  Independent data validation to detect biases in synthetic populations (Spring 2023)

- Mirza Ishraq Yeahia (M.S. Big Data Analytics, SDSU, completed in Spring 2023); Faculty Support Specialist at SDSU
- Huong Pham (M.S., Big Data Analytics, SDSU); Data Analytics Engineering at LPL Financial
  Examining the local-scale relationship between human mobility and COVID-19: A case study of San Diego, CA (Spring 2023)
- Eduardo Cordova (M.S. in GIScience, Geography, SDSU); GIS Analyst at Quartic Solutions
  Detecting and Examining Spatiotemporal Patterns of Deviant Driving Behavior (Spring 2022)
- Irwin Mier (M.S., Big Data Analytics, SDSU, completed in Spring 2022)
- Shad Fernandez (M.S. Big Data Analytics, SDSU, completed in Spring 2022)
- Kristen Monteverde (M.S. in GIScience, Geography, SDSU); Adjunct Faculty, Department of Earth Sciences, Grossmont College; Lecturer, Department of Geography, SDSU
  Coastal erosion risk mapping of the San Diego region: An assessment of spatial and temporal change. (Summer 2019)
- Cheng-Chia Huang (M.S. in GIScience, Geography, SDSU); Sr. Product Engineer at ESRI
  Developing a Data Mining Framework to Identify a Sense of Gentrification through Social Media Data: A Case Study Using Instagram Posts in Salt Lake City, Utah. (Fall 2017)

Master student advising (committee member):

In progress (4)

- E'lysha Guerrero (M.S. in GIScience, Geography, SDSU)
- Aidan Patterson (M.S. in GIScience, Geography, SDSU)
- Cody Mower (M.S. in GIScience, Geography, SDSU)
- Maximilliano Ramirez (M.S., Big Data Analytics, SDSU)

Completed (35)

- Adrian Kieback (M.S., Big Data Analytics, SDSU)
  Enhancing mental health diagnosis with representation learning: A transformer-based approach (Spring 2024)
- Thomas Rodriguez (M.S. Applied Mathematics, SDSU)
  Modeling the Spatial-Temporal Dynamics of COVID-19: Impact of Heterogeneity on the Environmental Temperature (Summer 2023)
- Amir Reza Sadeghi (M.S. Civil Engineering, SDSU)
  Developing a framework for prioritizing bicycle safety improvement projects (Spring 2023)
- Chandler Ross (M.S. GIScience, Geography, SDSU)
  Machine Learning approach to burned area mapping for Southern California (Spring 2023)
- Yesenia Garcia (M.A. Anthropology, SDSU)
  Computational Erosion Modeling: Preserving Archaeological Sites on San Miguel Island (Spring 2023)
- Christian Mejia (M.S. in GIScience, Geography, SDSU)
  Virtual Reality Integration into Geography Education: A Case Study of Physical Geography (Fall 2021)
- Alireza Darzian Rostami (M.S. Civil Engineering, SDSU)
  Predicting critical near-crashes at signalized intersections (Summer 2021)
- Krati Patidar (M.S. Big Data Analytics, SDSU, completed in Spring 2021)
- Noah Young (M.S. GIScience, Geography, SDSU)
  Mapping environmentally sustainable urban development within six US cities using object-based image change analysis of aerial orthoimagery (Summer 2021)
- Keaton Shennan (M.S. GIScience, Geography, SDSU)

Geovisualization and descriptive analysis of landscape level wildfire behavior using repeat pass airborne thermal infrared imagery (Spring 2021)

- Craig Fischer (M.S. Biology, SDSU)
  Evaluating the impacts of mitigation translocations of the flat-tailed horned lizard (Phrynosoma mcallii) in southwest Arizona (Spring 2021)
- Gavin Schag (M.S. GIScience, Geography, SDSU)
  Evaluating Landscape-Level Controls of Wildfire Spread Rates Using Repetitive Airborne Thermal Infrared (ATIR) Imagery (Spring 2020)
- Alexandra Yost (M.S. GIScience, Geography, SDSU)
  A Longitudinal Study Evaluating the Effects of Payments for Ecosystem Services on Species Richness (Summer 2020)
- Greta Schmidt (M.S. Biology, SDSU)
  Spatial ecology of South Texas wild felids in the context of roads and wildlife crossing structures (Summer 2020)
- Haihong Huang (M.S. GIScience, SDSU)
  Development and evaluation of HealthWebMapper: a web-based user-friendly geovisualization tool for cancer disparities (Spring 2019)
- Benjamin Melendez (M.S. Engineering, SDSU)
  Modeling traffic during lilac wildfire evacuation using cellular data (Spring 2019)
- Madison McLaughlin (MPH, Graduate School of Public Health, SDSU)
  Evaluation of a Portable Chamber for Field Calibration of Particulate Matter Monitors (Summer 2018)
- Judy Mak (M.S. GIScience, Geography, SDSU)
  Agent-based modeling of Rhinopithecus Brelichi population and movements in the Fanjingshan national nature reserve (Summer 2018)
- Stefany Pickett (M.S. GIScience, Geography, SDSU)
  Analyzing spatio-temporal patterns of Pokémon Go game users and the impacts of users' physical activities (Summer 2018)
- Kaltoum Kerdi (MPH, Graduate School of Public Health, SDSU)
  Seasonal variation of chemical composition of PM 2.5 in four locations in San Ysidro, California (Summer 2018)
- Matthew Plummer (M.S. GIScience, Geography, SDSU)
  The effect of shadow removal on the co-registration accuracy of aerial image pairs (Spring 2018)
- Charles Lewis Belt III (M.S. Engineering, SDSU)
  Public Perceptions of Connected and Automated Vehicles before and after Informative Intervention (Spring 2018)
- Alidad Ahmadi (M.S. Engineering, SDSU)
  Examination of drivers' performance using a personalized adaptive curve speed warning: a driving simulator study (Fall 2017)
- Joey Lee (M.S. GIScience, Geography, SDSU)
  Mapping tourist behavior hotspots through photo-sharing service data (Summer 2017)
- Alejandra Coronado (M.S. GIScience, Geography, SDSU)
  Spatial Associations and Network Dynamics between the Vaccine Exemption Discussion in Twitter and the Corresponding Geographic Space (Summer 2017)
- Hao Zhang (M.S. GIScience, Geography, SDSU)
  Building a dynamic population distribution model with geo-tagged tweets (from twitter) and dasymetric maps in urban area (Summer 2017)
- Rick Zhang (M.S. GIScience, Geography, SDSU)
  Building Dynamic Ontological Models for Place Names using Social Media Data from Twitter and

Sina Weibo (Summer 2017)

- Andrew Kerr (M.S. GIScience, Geography, SDSU)
  Optimizing Radiometric Fidelity to Enhance Aerial Image Change Detection Utilizing Digital Single Lens Reflex (DSLR) Cameras (Spring 2017)
- Eugene Schweizer (M.S. GIScience, Geography, SDSU)
  Automating Near Real-Time, Post-Hazard Detection of Crack Damage to Critical Infrastructure (Spring 2017)
- Natalie Goddard (M.S. Biology, SDSU)
  Landscape Genetics of the Endangered San Diego Fairy Shrimp Branchinecta Sandiegonensis (Spring 2017)
- Samuel, St. Lifer (M.S. in GIScience, Geography, SDSU)
  Evaluating the Potential for Mixed-Use Urban Land Development using Multi-Criteria Decision Analysis: A Case Study in the City of San Diego (Summer, 2016)
- Garrick Macdonald (M.S. in GIScience, Geography, SDSU)
  Multi-criteria Decision Analysis in Conservation Planning: A Case Study in San Diego County using Multi-Criteria Design of Conservation Area Networks (Summer 2016)
- Jessica Dozier (M.S. in GIScience, Geography, SDSU)
  Improve Disaster Communication in Online and Offline Communities using Social Media (Twitter) and Big Data (Spring 2016)
- Elias Issa (M.S. in GIScience, Geography, SDSU)
  Understanding the Spatio-Temporal Characteristics of Twitter Data with Geo-tagged and Non Geo-tagged Content: Two Case Studies with the Topic of Flu and Ted (Movie) (Spring 2016)
- Ranjana Venkataraman (M.S. Computer Science, SDSU)
  Interactive Campus Map Application for SDSU (Fall 2015)

***Undergraduate Supervision**:*

<u>San Diego State University (12)</u>

- Christopher Flores
  - GEOG 499 Special Study (Spring 2024)
- Devina Naik
  - Sage Project: Tijuana's Historical Archives Project (Spring 2024)
  - Summer Undergraduate Research Program: Center for Regional Sustainability Storymaps, co-mentor, PI: Jessica Barlow (Summer 2024)
- Jessica Embury
  - Sage Project: Identification of high-risk dry cleaning sites in San Diego County: Spatial analysis (Partnership with the California Water Resource Board)
  - GEOG 499 Special Study (Fall 2021)
- Dustin Smith
  - Sage Project: Housing market analysis (Partnership with the City of La Mesa)
  - GEOG 499 Special Study (Fall 2019)
- Adam Russnogle
  - Sage Project: Housing market analysis (Partnership with the City of La Mesa)
  - GEOG 499 Special Study (Fall 2019)
- Ken Tominaga
  - Summer Undergraduate Research Program: Examining Dynamic Population Distribution and Human Risk Perception by Geospatial Big Data Analytics (Summer 2018)
- Kolbe Kulda
  - REU (Research Experiences for Undergraduates), NSF-IMEE, "Integrated Stage-based Evacuation with Social Perception Analysis and Dynamic Population Estimation" (Spring 2018)

    - Sage Project: Housing market analysis (Partnership with the City of La Mesa)
    - GEOG 499 Special Study (Fall 2019)
- Eva Sanchez
    - REU (Research Experiences for Undergraduates), NSF-IMEE, "Integrated Stage-based Evacuation with Social Perception Analysis and Dynamic Population Estimation" (Fall 2016 – Spring 2017)
- Brianna Haeckl
    - Natural History Museum GIS Internship Project (Spring 2017)
- Damien Herndon
    - Sage Project: GIS city assets mapping project (Partnership with the of Lemon Grove) (Fall 2016 – Fall 2017)
- Kayla Brown
    - Sage Project: GIS city assets mapping project (Partnership with the City of Lemon Grove) (Fall 2016 – Spring 2017)
- Timothy Schempp
    - Summer Undergraduate Research Program: Applying geospatial and mobile technologies to map the structure of healthcare delivery networks (Summer 2015)
    - GEOG 499 Special Study (Fall 2015)
- Andrew Novak
    - Sage Project: GIS city assets mapping project (Partnership with the City of Santee)
    - GEOG 499 Special Study (Spring 2016)

Brazil Scientific Mobility Program (BSMP)

- Erick Cesar Knoll (Summer 2016)
- Mateus De Alencar Costa (Summer 2016)

University of San Diego (1)

- Kaelan Anderson (Computer Science)
    - Research Assistant: NSF-B2: Analyzing Spatiotemporal Changes and Socio-Environmental Impacts of the Homeless Population in a U.S. Border Region and Creating a Homeless and Health Equality Research Consortium (2024 – 2025)

Teaching in practice and community engagement

- Sage Project

  During the academic years 2015–16, 2016–17, 2019–20, 2020–21, 2023–24, and 2024–25, I participated in the Sage Project (Director: Dr. Jessica Barlow, Professor of Geography), a partnership between SDSU and local government entities in the San Diego region. The program's mission is to engage students from across the university in assisting local governments with projects that support smart growth, quality of life, and sustainability goals. Through the Sage Project, I have created opportunities for students in GEOG 383, GEOG 484, GEOG 499, and GEOG 584 to contribute to meaningful, real-world projects with community partners, including cities of Santee, Lemon Grove, and National City, as well as the California Water Resources Control Board and the SDSU University Library. Students applied cutting-edge geospatial technologies, such as mobile data collection, cloud-based data management, map production, and scripting. Student outcomes consistently exceeded expectations: one student secured a paid internship that led to full-time employment with the City of Santee; four students were hired as interns through the Sage Project; and several students successfully presented their work at academic conferences, the SDSU Student Research Symposium, the Sage Symposium, and various stakeholder meetings.

- Natural History Museum GIS Internship Project
  In Spring 2017, Brianna Haeckl, an Anthropology major, participated in the San Diego Natural History Museum (theNAT) GIS Internship Program, which also served as her final project for my GEOG 584 course. During the program, Brianna and I collaborated with theNAT to build a GIS database and analyze archaeological sites in Baja California, Mexico.

- Big Data Hackathon for San Diego
  I have served on the organizing committee for the Big Data Hackathon for San Diego, held at SDSU in 2015, 2017, 2019, 2022, and 2024. Since 2017, each event has attracted several hundred participants, including students from SDSU, other colleges and universities, and local high schools. We engaged participants in collaborative programming and supported the development of software and tools aimed at addressing community challenges.

SERVICE

Service for the Department

1. 2022 – 2025 — Personnel Committee, Geography (Chair, 2024-2025)
2. 2022 – 2023, 2024 – 2025 — Policy Advisory Committee, Geography
3. 2024 – 2025 — Speakers Committee, Geography
4. 2022 – 2024 — Hiring Committee, Geography
5. 2023 – 2024 — Ph.D. Advising Committee, Geography
6. 2021 – 2022 — Student Outcomes Committee, Geography (Chair, 2021-2022)
7. 2014 – 2021, 2022 – 2023 — Computing Committee, Geography (Chair, 2018-2021)
8. 2014 – 2021, 2023 – 2024 — Scholarships Awards Committee, Geography
9. 2019 – 2021 — Student Outcomes Committee, Geography
10. 2014 – 2015 — MA/MS Advising Committee, Geography

Service for the College

1. 2024 – 2026 — CAL Curriculum Committee
2. 2022 – present — Lecturers Evaluation Review Committee, Big Data Analytics Program (Chair, 2024 - present)
3. 2023 — Review Committee for the Alumni Award for Outstanding Faculty Contributions, College of Arts and Letters
4. 2014 – present — Selection Committee, Japan Exchange Program

Service for the University

1. 2014 – present — Associate Director, Center for Human Dynamics in the Mobile Age (HDMA)
2. 2014 – present — Steering Committee, Big Data Analytics Master of Science Degree Program in Big Data Science

Service for the Profession

1. 2022 – 2025, 2025 - present — Elected Board Member, Spatial Analysis and Modeling Specialty Group American Association of Geographers
2. 2025 — NSF, Grant Application Review Panelist
3. 2017 – 2019, 2021 – 2024 — NSF, Grant Application Ad Hoc Reviewer
4. 2023 — National Academies of Sciences, Engineering, and Medicine, Grant Application Review Panelist
5. 2023 — Grant Selection Committee, *Grand Challenge: Building Critical Mass for Data Science*, The California Education Learning Lab, the California Governor's Office of Planning and Research and the Foundation for California Community Colleges
6. 2018 – 2019, 2022 – 2024 — Session Organizer (Chair), Social Media/Big Data/Human dynamics, American Association of Geographers, Annual Meeting
7. 2020, 2021, 2023, 2025 — Program Committee, International Conference on Geographic Information Science (GIScience)
8. 2015, 2017, 2019, 2022 — Organizing Committee, Big Data Hackathon for San Diego
9. 2021 — Organizer & Host, The Association of Pacific Coast Geographers 2021 Annual

Meeting at SDSU

10. 2021 Session Organizer (Chair), Geocomputation Education and Career Workshop, The Association of Pacific Coast Geographers 2021 Annual Meeting
11. 2021 Session Organizer, Geospatial Health Symposium: Mapping and Analyzing the Impacts of COVID-19 Outbreak in Neighborhoods, American Association of Geographers, Annual Meeting
12. 2020 – present Editorial Board Member, Journal on Computational Urban Science
13. 2019 Swiss National Science Foundation (SNSF) Proposal Reviewer
14. 2016, 2017 Session Organizer, Symposium on Human Dynamics Research: Social Media and Big Data, American Association of Geographers, Annual Meeting
15. 2016, 2018 Program Committee, Rethinking the ABCs: Agent-Based Models and Complexity Science in the age of Big Data, GIScience Workshop
16. 2017 Science Committee, Agent-Based Modeling (ABM) 17: A Workshop That Advances the Science of ABM (2017)
17. 2015 Research Program Proposal Reviewer, Israel Science Foundation

18. Manuscript Acknowledgement
    - Petros, S., Abay, F., Desta, G., & O'Brien, C. (2018). Women Farmers' (Dis)Empowerment Compared to Men Farmers in Ethiopia. *World Medical & Health Policy*, 10(3), 220–245. https://doi.org/10.1002/wmh3.280
      Contribution: Created Figure 1 (GIS Map)

19. Reviews for Academic Manuscripts

    Refereed Journals (26)
    - Annals of the American Association of Geographers
    - Annals of GIS
    - Applied Geography
    - Cities
    - Computational urban science
    - Computers, Environment and Urban Systems
    - Decision Support Systems
    - Environment and Planning B: Urban Analytics and City Science
    - Georisk
    - International Journal of Geo-Information
    - International Journal of Geographic Information Science
    - International Journal of Digital Earth
    - International Journal of Disaster Risk Reduction
    - Journal of Location-Based Service
    - Journal of Medical Internet Research
    - Journal of Visual Languages and Computing
    - Letters in Spatial and Resource Sciences
    - PLOS ONE
    - Scientific Data
    - Spatial Cognition and Computation
    - Stochastic Environmental Research and Risk Assessment
    - Sustainable Cities and Society
    - Transactions in GIS
    - Transactions on Spatial Algorithms and Systems

- The Professional Geographer

Refereed Book Chapters (3)

- Handbook of Remote Sensing
- Human Dynamics Research in Smart and Connected Communities
- GIS & Technology: Body of Knowledge