

DAFTAR PUSTAKA

- Adnan, R. S., Rahadiatmoko, & Anam, F. K. (2019). Social Media Create Benefit and Challenge on Tourism Side a Case Study of Tourist Area in Indonesia. *International Tourism Conference Dubrovnik, Tourism in the VUCA World: Towards the Era of Ir (Responsibility)*, 49–65.
- Aggarwal, C. C. (2015). *Data Mining*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-14142-8>
- Aichner, T., & Jacob, F. (2018). Measuring the Degree of Corporate Social Media Use. *International Journal of Market Research*. <https://doi.org/10.2501/ijmr-2015-018>
- Andrienko, G., & Andrienko, N. (2005). Visual Exploration of the Spatial Distribution of Temporal Behaviors. *Proceedings of the Ninth International Conference on Information Visualisation*, 1–8.
- Anselin, L. (1995). Local Indicators of Spatial Association—LISA. *Geographical Analysis*, 27(2), 93–115. <https://doi.org/10.1111/j.1538-4632.1995.tb00338.x>
- Axelrod, R. (1997). Advancing the art of simulation in the social sciences. *Complexity*, 3(2), 16–22. [https://doi.org/10.1002/\(SICI\)1099-0526\(199711/12\)3:2<16::AID-CPLX4>3.0.CO;2-K](https://doi.org/10.1002/(SICI)1099-0526(199711/12)3:2<16::AID-CPLX4>3.0.CO;2-K)
- Bae, S. H., & Yun, H. J. (2017). Spatiotemporal Distribution of Visitors' Geotagged Landscape Photos in Rural Areas. *Tourism Planning and Development*, 14(2), 167–180. <https://doi.org/10.1080/21568316.2016.1204356>
- Baggio, R., & Scaglione, M. (2018). Strategic visitor flows and destination management organization. *Information Technology and Tourism*, 18(1–4), 29–42. <https://doi.org/10.1007/s40558-017-0096-1>
- Bailey, T. C., & Gatrell, A. C. (1995). *Interactive Spatial Data Analysis*. Longman Scientific & Technical.
- Bankes, S. C. (2002). Agent-based modeling: A revolution? *Proceedings of the National Academy of Sciences of the United States of America*, 99(3), 7199–7200. <https://doi.org/10.1073/pnas.072081299>
- Batty, M. (2005). *Cities and Complexity Understanding Cities with Cellular Automata, Agent-Based Models, and Fractals*. The MIT Press.

- Bell, L., Butler, S., Holden, T., Kaminski, A., McNaughtan, H., Skolnick, A., Stewart, I., & Berkmoes, R. Ver. (2016). *Lonely Planet Indonesia* (11th Editi). Lonely Planet Publications Pty Ltd.
- Benenson, I., & Torrens, P. M. (2004). Geosimulation: Object-based modeling of urban phenomena. *Computers, Environment and Urban Systems*, 28(1–2), 1–8. [https://doi.org/10.1016/s0198-9715\(02\)00067-4](https://doi.org/10.1016/s0198-9715(02)00067-4)
- Bergemann, D., & Morris, S. (2016). Bayes correlated equilibrium and the comparison of information structures in games: Bayes correlated equilibrium. *Theoretical Economics*, 11(2), 487–522. <https://doi.org/10.3982/TE1808>
- Bermingham, L., & Lee, I. (2014). Spatio-temporal sequential pattern mining for tourism sciences. *ICCS 2014. 14th International Conference on Computational Science*, 29, 379–389. <https://doi.org/10.1016/j.procs.2014.05.034>
- Bifulco, G. N., Carteni, A., & Papola, A. (2010). An activity-based approach for complex travel behaviour modelling. *European Transport Research Review*, 2(4), 209–221. <https://doi.org/10.1007/s12544-010-0040-3>
- Blakey, E. (2024). The Day Data Transparency Died: How Twitter/X Cut Off Access for Social Research. *Contexts*, 23(2), 30–35. <https://doi.org/10.1177/15365042241252125>
- Bonabeau, E. (2002). Agent-based modeling: Methods and techniques for simulating human systems. *Proceedings of the National Academy of Sciences of the United States of America*, 99(SUPPL. 3), 7280–7287. <https://doi.org/10.1073/pnas.082080899>
- Borne, K. (2014). *Top 10 big data challenges a serious look at 10 big data v's*. <https://mapr.com/blog/top-10-big-data-challenges-serious-look-10-big-data-vs/>
- Boto-García, D., & Baños-Pino, J. F. (2022). Social influence and bandwagon effects in tourism travel. *Annals of Tourism Research*, 93, 103366. <https://doi.org/10.1016/j.annals.2022.103366>
- Box, G. E. P. (1976). Science and Statistics. *Journal of the American Statistical Association*, 71(356), 791–799. <https://doi.org/10.1080/01621459.1976.10480949>
- BPS DIY. (2025). *Berita Resmi Statistik: Perkembangan Pariwisata D.I, Yogyakarta, Maret 2025* (Data Statistik No. 28/05/34/Th. XXVII; Berita Resmi Statistik, p. 12). Badan Pusat Statistik DIY. <https://yogyakarta.bps.go.id/en/pressrelease/2025/05/02/1629/tourism->

development-in-daerah-istimewa-yogyakarta--march-2025.html?utm_source=chatgpt.com

- Brandt, T., Bendler, J., & Neumann, D. (2017). Social media analytics and value creation in urban smart tourism ecosystems. *Information & Management*, 54(6), 703–713. <https://doi.org/10.1016/j.im.2017.01.004>
- Buhalis, D. (2000). Marketing the competitive destination of the future. *Tourism Management*, 21(1), 97–116.
- Buhalis, D., & Amaranggana, A. (2015). Smart Tourism Destinations Enhancing Tourism Experience Through Personalisation of Services. In I. Tussyadiah & A. Inversini (Eds.), *Information and Communication Technologies in Tourism 2015* (pp. 377–389). Springer.
- Buhalis, D., & Michopoulou, E. (2011). Information-enabled tourism destination marketing: Addressing the accessibility market. *Current Issues in Tourism*, 14(2), 145–168. <https://doi.org/10.1080/13683501003653361>
- Caldwell, J., & Ram, Y. M. (1999). *Formulation of Mathematical Models BT - Mathematical Modelling: Concepts and Case Studies* (J. Caldwell & Y. M. Ram, Eds.; pp. 3–32). Springer Netherlands. https://doi.org/10.1007/978-94-017-2201-8_1
- Cambria, E., Schuller, B., Xia, Y., & Havasi, C. (2013). New Avenues in Opinion Mining and Sentiment Analysis. *IEEE Intelligent Systems*, 28(2), 15–21. <https://doi.org/10.1109/MIS.2013.30>
- Campello, R. J. G. B., Moulavi, D., & Sander, J. (2013). Density-Based Clustering Based on Hierarchical Density Estimates. In J. Pei, V. S. Tseng, L. Cao, H. Motoda, & G. Xu (Eds.), *Advances in Knowledge Discovery and Data Mining. PAKDD 2013. Lecture Notes in Computer Science* (Vol. 7819, pp. 160–172). Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-37456-2_14
- Carley, K. M., Malik, M., Kowalchuck, M., Pfeffer, J., & Landwehr, P. (2018). Twitter Usage in Indonesia. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2720332>
- Carrascal Incera, A., & Fernández, M. F. (2015). Tourism and income distribution: Evidence from a developed regional economy. *Tourism Management*, 48, 11–20. <https://doi.org/10.1016/j.tourman.2014.10.016>
- Chahal, H., & Devi, A. (2015). Destination Attributes and Destination Image Relationship in Volatile Tourist Destination: Role of Perceived Risk. *Metamorphosis: A Journal of Management Research*, 14(2), 1–19. <https://doi.org/10.1177/0972622520150203>

- Chandra, S., Khan, L., & Muhaya, F. Bin. (2011). Estimating twitter user location using social interactions—A content based approach. *Proceedings - 2011 IEEE International Conference on Privacy, Security, Risk and Trust and IEEE International Conference on Social Computing, PASSAT/SocialCom 2011*, 838–843. <https://doi.org/10.1109/PASSAT/SocialCom.2011.120>
- Chao, D., Furuta, K., & Kanno, T. (2011). A framework for agent-based simulation in tourism planning. In J. A. Jacko (Ed.), *Human-Computer Interaction (Towards Mobile and Intelligent Interaction Environments): Vol. 6763 LNCS* (Issue Part III, pp. 280–287). Springer-Verlag. https://doi.org/10.1007/978-3-642-21616-9_31
- Chen, C., Ma, J., Susilo, Y., Liu, Y., & Wang, M. (2016). The promises of big data and small data for travel behavior (aka human mobility) analysis. *Transportation Research Part C: Emerging Technologies*, 68, 285–299. <https://doi.org/10.1016/j.trc.2016.04.005>
- Chen, J., Becken, S., & Stantic, B. (2022). Harnessing social media to understand tourist travel patterns in multi-destinations. *Annals of Tourism Research Empirical Insights*, 3(2), 100079. <https://doi.org/10.1016/j.annale.2022.100079>
- Chen, J., Shoal, N., & Stantic, B. (2024). Tracking tourist mobility in the big data era: Insights from data, theory, and future directions. *Tourism Geographies*, 26(8), 1381–1411. <https://doi.org/10.1080/14616688.2024.2341249>
- Chen, W., Xu, Z., Zheng, X., & Luo, Y. (2019). Geo-Tagged Photo Metadata Processing Method for Beijing Inbound Tourism Flow. *ISPRS International Journal of Geo-Information*, 8(12), 556. <https://doi.org/10.3390/ijgi8120556>
- Cheng, D., Wu, Y., Yuan, Y., Cheng, F., & Chen, D. (2024). Modeling the Maximum Perceived Utility Consensus Based on Prospect Theory. *Group Decision and Negotiation*, 33(5), 951–975. <https://doi.org/10.1007/s10726-023-09871-9>
- Clark, P. J., & Evans, F. C. (1954). Distance to Nearest Neighbor as a Measure of Spatial Relationships in Populations. *Ecology*, 35(4), 445–453. <https://doi.org/10.2307/1931034>
- Condeço-Melhorado, A., Mohino, I., Moya-Gómez, B., & García-Palomares, J. C. (2020). The Rio Olympic Games: A Look into City Dynamics through the Lens of Twitter Data. *Sustainability*, 12(17), 7003. <https://doi.org/10.3390/su12177003>

- Craglia, M., Ostermann, F., & Spinsanti, L. (2012). Digital Earth from vision to practice: Making sense of citizen-generated content. *International Journal of Digital Earth*, 5(5), 398–416. <https://doi.org/10.1080/17538947.2012.712273>
- Cressie, N. A. C. (1993). *Statistics for Spatial Data*. John Wiley & Sons, Inc.
- Curlin, T., Jaković, B., & Miloloža, I. (2019). Twitter usage in Tourism: Literature Review. *Business Systems Research*, 10(1), 102–119. <https://doi.org/10.2478/bsrj-2019-0008>
- Cvetojevic, S., Juhasz, L., & Hochmair, H. (2016). Positional Accuracy of Twitter and Instagram Images in Urban Environments. *GI Forum*, 1, 191–203. <https://doi.org/10.1553/giscience2016>
- De Choudhury, M., Feldman, M., Amer-Yahia, S., Golbandi, N., Lempel, R., & Yu, C. (2010). Automatic construction of travel itineraries using social breadcrumbs. *Proceedings of the 21st ACM Conference on Hypertext and Hypermedia*, 35–44. <https://doi.org/10.1145/1810617.1810626>
- de la Fuente, J., Kauffman, D. F., & Boruchovitch, E. (2023). Editorial: Past, present and future contributions from the social cognitive theory (Albert Bandura). *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1258249>
- Dean, M. (2002). The ego factor in tourism. *Journal of Consumer Research*, 29(1), 146.
- DeAngelis, D. L., & Diaz, S. G. (2019). Decision-making in agent-based modeling: A current review and future prospectus. *Frontiers in Ecology and Evolution*, 6(JAN), 1–15. <https://doi.org/10.3389/fevo.2018.00237>
- Derdouri, A., & Osaragi, T. (2021). A machine learning-based approach for classifying tourists and locals using geotagged photos: The case of Tokyo. *Information Technology & Tourism*, 23(4), 575–609. <https://doi.org/10.1007/s40558-021-00208-3>
- Devkota, B., Miyazaki, H., & Witayangkurn, A. (2019). Using Volunteered Geographic Information and Nighttime Light Remote Sensing Data to Identify Tourism Areas of Interest. *Sustainability (Switzerland)*, 11(17), 1–29. <https://doi.org/10.3390/su11174718>
- Devlin, J., Chang, M.-W., Lee, K., & Taoutanova, K. (2019). BERT: Pre-training of Deep Bidirectional Transformers for Language Understanding. *Proceedings of NAACL-HLT 2019*, 4171–4186.
- DiBiase, D. (1990). Visualization in the Earth Sciences. Earth and Mineral Sciences. *Bulletin of the College of Earth and Mineral Sciences*, 59(2), 13–18.

- Dickey, J. W., & Watts, T. M. (1978). *Analytic techniques in urban and regional planning: With applications in public administration and affairs*. McGraw-Hill.
- Dinas Pariwisata DIY. (2018). Statistik Kepariwisataaan DIY 2018. In *Dinas Pariwisata Daerah Istimewa Yogyakarta* (2018th ed.).
- Dinas Pariwisata DIY. (2021). *Statistik Kepariwisataaan Daerah Istimewa Yogyakarta Tahun 2020* (2020th ed.). Dinas Pariwisata DIY. <https://visitingjogja.jogjaprov.go.id/webdinas/download/statistik-kepariwisataaan-diy-tahun-2020/>
- Dinas Perhubungan Sleman. (2024, December 23). *Tinjau Obyek Wisata IBARBO terkait Lokasi Parkir*. Tinjau Obyek Wisata IBARBO terkait Lokasi Parkir. <https://perhubungan.slemankab.go.id/tinjau-obyek-wisata-ibarbo-terkait-lokasi-parkir/>
- Dolnicar, S., Coltman, T., & Sharma, R. (2015). Do Satisfied Tourists Really Intend to Come Back? Three Concerns with Empirical Studies of the Link between Satisfaction and Behavioral Intention. *Journal of Travel Research*, 54(2), 152–178. <https://doi.org/10.1177/0047287513513167>
- Domènech, A., Mohino, I., & Moya-Gómez, B. (2020). Using Flickr Geotagged Photos to Estimate Visitor Trajectories in World Heritage Cities. *ISPRS International Journal of Geo-Information*, 9(11), 646. <https://doi.org/10.3390/ijgi9110646>
- Donaire, J. A., Camprubí, R., & Galí, N. (2014). Tourist clusters from Flickr travel photography. *Tourism Management Perspectives*. <https://doi.org/10.1016/j.tmp.2014.02.003>
- Dragin-Jensen, C., Post-Lundgaard, M., & Schnittka, O. (2024). The Instagrammable Hotel: A Sequential Explanatory Design Study of Hotel-and User-Generated Content. *Tourism and Hospitality*, 5, 1418–1436. <https://doi.org/10.3390/tourhosp5040079>
- Duarte, F. (2024). *X (Formerly Twitter) User Age, Gender, & Demographic Stats (2024)*. Explodingtopics. <https://explodingtopics.com/blog/x-user-stats#age>
- Edwards, D., & Griffin, T. (2013). Understanding tourists' spatial behaviour: GPS tracking as an aid to sustainable destination management. *Journal of Sustainable Tourism*, 21(4), 580–595. <https://doi.org/10.1080/09669582.2013.776063>
- Epstein, J. M. (1999). Agent Based Models and Generative Social Science. *Complexity*, 4(5), 41–60.

- Epstein, J. M. (2008). Why model? *Journal of Artificial Societies and Social Simulation*, 11(4). <https://doi.org/10.1080/01969720490426803>
- ESRI. (2021a, September 20). How Create Space Time Cube works. *ArcGIS Desktop Resources*. <https://desktop.arcgis.com/en/arcmap/latest/tools/space-time-pattern-mining-toolbox/learnmorecreatecube.htm>
- ESRI. (2021b, September 20). How Emerging Hot Spot Analysis works. *ArcGIS Desktop Resources*. <https://desktop.arcgis.com/en/arcmap/latest/tools/space-time-pattern-mining-toolbox/learnmoreemerging.htm>
- Ester, M., Kriegel, H.-P., Sander, J., & Xu, X. (1996). Density-Based Clustering Methods. *KDD-96 Proceedings*, 226–231. <https://doi.org/10.1016/B978-044452701-1.00067-3>
- Fischer, F. (2012). VGI as big data. A new but delicate geographic data-source. *GeoInformatics*.
- Flickr. (2018, September 5). Flickr APIs Terms of Use. *Flickr API*. <https://www.flickr.com/help/terms/api>
- Frank, M. R., Mitchell, L., Dodds, P. S., & Danforth, C. M. (2013). Happiness and the patterns of life: A study of geolocated tweets. *Scientific Reports*, 3, 1–9. <https://doi.org/10.1038/srep02625>
- Franklin, S., & Graesser, A. (1996). Is it an agent, or just a program?: A taxonomy for autonomous agent. *Hird International Workshop on Agent Theories, Architectures, and Languages*, 21–35.
- Fu, C., McKenzie, G., Frias-Martinez, V., & Stewart, K. (2018). Identifying spatiotemporal urban activities through linguistic signatures. *Computers, Environment and Urban Systems*, 72, 25–37. <https://doi.org/10.1016/j.compenvurbsys.2018.07.003>
- Fuchs, M., & Höpken, W. (2022). Clustering. In R. Egger (Ed.), *Applied Data Science in Tourism: Interdisciplinary Approaches, Methodologies, and Applications* (pp. 129–149). Springer International Publishing. https://doi.org/10.1007/978-3-030-88389-8_8
- Fukuyama, F., & Holland, J. H. (1996). Hidden Order: How Adaptation Builds Complexity. *Foreign Affairs*. <https://doi.org/10.2307/20047667>
- Gaffar, V., Abdullah, T., & Putri, D. N. (2018). How can social media marketing create positive image of nature-based tourist destination in Indonesia? *The Business and Management Review*, 9(4), 476–482.

- Gandomi, A., & Haider, M. (2015). Beyond the hype: Big data concepts, methods, and analytics. *International Journal of Information Management*, 35(2), 137–144. <https://doi.org/10.1016/j.ijinfomgt.2014.10.007>
- García-Palomares, J. C., Gutiérrez, J., & Mínguez, C. (2015). Identification of tourist hot spots based on social networks: A comparative analysis of European metropolises using photo-sharing services and GIS. *Applied Geography*, 63, 408–417. <https://doi.org/10.1016/j.apgeog.2015.08.002>
- Geiger, B. C., Jahani, A., Hussain, H., & Groen, D. (2023). Markov Aggregation for Speeding Up Agent-Based Movement Simulations. *Proceedings of the International Joint Conference on Autonomous Agents and Multiagent Systems, AAMAS, 2023-May*, 1877–1885.
- Getis, A., & Fisher, M. (2010). Handbook of Applied Spatial Analysis. In *Handbook of Applied Spatial Analysis*. Springer Berlin Heidelberg. <https://doi.org/10.1007/978-3-642-03647-7>
- Getis, A., & Ord, J. K. (1992). The Analysis of Spatial Association by Use of Distance Statistics. *Geographical Analysis*, 24(3), 189–206. <https://doi.org/10.1111/j.1538-4632.1992.tb00261.x>
- Gigi, L. W. C. (2007). *Mapping Tourist Movement Patterns: A GIS Approach*. The Hong Kong Polytechnic University.
- Girardin, F., Fiore, F. D., Ratti, C., & Blat, J. (2008). Leveraging explicitly disclosed location information to understand tourist dynamics: A case study. *Journal of Location Based Services*, 2(1), 41–56. <https://doi.org/10.1080/17489720802261138>
- Goeldner, C., & Ritchie, B. (2009). Tourism: Principles, Practices and Philosophies. In *Tourism*. <https://doi.org/10.1159/000470892>
- Gong, S., Dong, X., Wang, K., Lei, B., Jia, Z., Qin, J., Roadknight, C., Liu, Y., & Cao, R. (2023). Agent-based modelling with geographically weighted calibration for intra-urban activities simulation using taxi GPS trajectories. *International Journal of Applied Earth Observation and Geoinformation*, 122(May), 103368. <https://doi.org/10.1016/j.jag.2023.103368>
- Goodchild, M. F. (2007). Citizens as sensors: The world of volunteered geography. *GeoJournal*, 69(4), 211–221. <https://doi.org/10.1007/s10708-007-9111-y>

- Goodchild, M. F. (2009). Geographic information systems and science: Today and tomorrow. *Procedia Earth and Planetary Science*, 1(1), 1037–1043. <https://doi.org/10.1016/j.proeps.2009.09.160>
- Goodchild, M. F., & Haining, R. P. (2004). GIS and spatial data analysis: Converging perspectives. *Papers in Regional Science*, 83(1), 363–385. <https://doi.org/10.1007/s10110-003-0190-y>
- Granger, J., Branney, P., Sullivan, P., & McDermott, S. (2021). Ethical considerations in post-GDPR social media-based research. *QMIP Bulletin*, 1(32), 5–12. <https://doi.org/10.53841/bpsqmip.2021.1.32.5>
- Griffin, T., Hayllar, B., & Edwards, D. (2008). Places and People: A Precinct Typology. In B. Hayllar, T. Griffin, & D. Edwards (Eds.), *City Spaces – Tourist Places: Urban Tourism Precincts* (pp. 39–61). Elsevier Butterworth-Heinemann.
- Grimm, V. (1999). Ten years of individual-based modelling in ecology: What have we learned and what could we learn in the future? *Ecological Modelling*, 115(2–3), 129–148. [https://doi.org/10.1016/S0304-3800\(98\)00188-4](https://doi.org/10.1016/S0304-3800(98)00188-4)
- Grimm, V., Revilla, E., Berger, U., Jeltsch, F., Mooij, W. M., Railsback, S. F., Thulke, H. H., Weiner, J., Wiegand, T., & DeAngelis, D. L. (2005). Pattern-oriented modeling of agent-based complex systems: Lessons from ecology. *Science*, 310(5750), 987–991. <https://doi.org/10.1126/science.1116681>
- Gu, Z., Zhang, Y., Chen, Y., & Chang, X. (2016). Analysis of attraction features of tourism destinations in a mega-city based on check-in data mining—a case study of Shenzhen, China. *ISPRS International Journal of Geo-Information*, 5(11). <https://doi.org/10.3390/ijgi5110210>
- Haggett, P. (1983). *Geography: A Modern Synthesis* (Rev. 3rd e). Harper & Row.
- Haining, R. (2004). Spatial Data Analysis: Theory and Practice. In *Cambridge University Press*. Cambridge University Press. <https://doi.org/10.1192/bjp.112.483.211-a>
- Hall, C. M. (2020). Improving the recipe for culinary and food tourism? The need for a new menu. *Tourism Recreation Research*, 45(2), 284–287. <https://doi.org/10.1080/02508281.2019.1694243>
- Han, H., Kim, S. (Sam), & Otoo, F. E. (2018). Spatial movement patterns among intra-destinations using social network analysis. *Asia Pacific Journal of Tourism Research*, 23(8), 806–822. <https://doi.org/10.1080/10941665.2018.1493519>
- Harvey, D. (2009). *Social Justice and the City* (Revised Ed). University of Georgia.

- Hasnat, M. M., & Hasan, S. (2018). Identifying tourists and analyzing spatial patterns of their destinations from location-based social media data. *Transportation Research Part C: Emerging Technologies*, 96, 38–54. <https://doi.org/10.1016/j.trc.2018.09.006>
- Hawelka, B., Sitko, I., Beinat, E., Sobolevsky, S., Kazakopoulos, P., & Ratti, C. (2014). Geo-located Twitter as proxy for global mobility patterns. *Cartography and Geographic Information Science*, 41(3), 260–271. <https://doi.org/10.1080/15230406.2014.890072>
- Heiker, C., & Falcone, P. (2022). Decision Modeling in Markovian Multi-Agent Systems. *2022 IEEE 61st Conference on Decision and Control (CDC)*, 7235–7240. <https://doi.org/10.1109/CDC51059.2022.9993134>
- Helbich, M., & Leitner, M. (2010). Postsuburban Spatial Evolution of Vienna's Urban Fringe: Evidence from Point Process Modeling. *Urban Geography*. <https://doi.org/10.2747/0272-3638.31.8.1100>
- Hofer, B., Lampoltshammer, T. J., & Belgiu, M. (2015). Demography of Twitter Users in the City of London: An Exploratory Spatial Data Analysis Approach. In J. Brus, A. Vondrakova, & V. Vozenilek (Eds.), *Modern Trends in Cartography* (pp. 93–102). Springer. <https://doi.org/10.1007/978-3-319-07926-4>
- Hogenboom, A., Bal, D., Frasincar, F., Bal, M., De Jong, F., & Kaymak, U. (2013). Exploiting emoticons in sentiment analysis. *Proceedings of the ACM Symposium on Applied Computing*, 703–710. <https://doi.org/10.1145/2480362.2480498>
- Hollenstein, L., & Purves, R. (2010). Exploring place through user-generated content: Using Flickr to describe city cores. *Journal of Spatial Information Science*, 1, 21–48. <https://doi.org/10.5311/JOSIS.2010.1.3>
- Holloway, J. C., Humphreys, C., & Davidson, R. (2009). *The Business of Tourism* (8th ed.). Prentice Hall.
- Holm, S., Lemm, R., Thees, O., & Hilty, L. M. (2016). Enhancing agent-based models with discrete choice experiments. *Jasss*, 19(3). <https://doi.org/10.18564/jasss.3121>
- Hu, F., Li, Z., Yang, C., & Jiang, Y. (2019). A graph-based approach to detecting tourist movement patterns using social media data. *Cartography and Geographic Information Science*, 46(4), 368–382. <https://doi.org/10.1080/15230406.2018.1496036>

- Hu, Y., Gao, S., Janowicz, K., Yu, B., Li, W., & Prasad, S. (2015). Extracting and understanding urban areas of interest using geotagged photos. *Computers, Environment and Urban Systems*, *54*, 240–254. <https://doi.org/10.1016/j.compenvurbsys.2015.09.001>
- Huberman, B. A., Romero, D. M., & Wu, F. (2009). Social networks that matter Twitter under the microscope. *First Monday*, *14*(1), 1–9. <https://doi.org/10.5210/fm.v14i1.2317>
- Isaaks, E. H., & Srivastava, R. M. (1989). *An Introduction to Applied Geostatistics*. Oxford University Press.
- Jehle, U., Coetzee, C., Büttner, B., Pajares, E., & Wulfhorst, G. (2022). Connecting people and places: Analysis of perceived pedestrian accessibility to railway stations by Bavarian case studies. *Journal of Urban Mobility*, *2*(January), 100025. <https://doi.org/10.1016/j.urbmob.2022.100025>
- Jenkins, A., Croitoru, A., Crooks, A. T., & Stefanidis, A. (2016). Crowdsourcing a collective sense of place. *PLoS ONE*, *11*(4), 1–20. <https://doi.org/10.1371/journal.pone.0152932>
- Jiang, W., Xiong, Z., Su, Q., Long, Y., Song, X., & Sun, P. (2021). Using Geotagged Social Media Data to Explore Sentiment Changes in Tourist Flow: A Spatiotemporal Analytical Framework. *ISPRS International Journal of Geo-Information*, *10*(3), 135. <https://doi.org/10.3390/ijgi10030135>
- Juhasz, L., & Hochmair, H. (2019). Comparing the Spatial and Temporal Activity Patterns between Snapchat, Twitter and Flickr in Florida. *Journal for Geographic Information Science*, *7*(1), 18–39. <https://doi.org/10.1553/giscience2019>
- Kackaev, A., & Wood, J. (2013). Investigating Spatial Patterns in User-Generated Photographic Datasets by Means of Interactive Visual Analytics. *GeoViz Hamburg: Interactive Maps That Help People Think*. <https://doi.org/10.1177/1476127016655998>
- Kádár, B. (2014). Measuring tourist activities in cities using geotagged photography. *Tourism Geographies*, *16*(1), 88–104. <https://doi.org/10.1080/14616688.2013.868029>
- Kádár, B., & Gede, M. (2013a). Where do tourists go? Visualizing and analysing the spatial distribution of geotagged photography. *Cartographica*, *48*(2), 78–88. <https://doi.org/10.3138/carto.48.2.1839>

- Kádár, B., & Gede, M. (2013b). Where Do Tourists Go? Visualizing and Analysing the Spatial Distribution of Geotagged Photography. *Cartographica*, 48(2), 78–88. <https://doi.org/10.3138/carto.48.2.1839>
- Karim, S. A. (2006). Culinary tourism as a destination attraction: An empirical examination of the destination's food image and information sources. In *ProQuest Dissertations and Theses*. Oklahoma State University.
- Karyatun, S., Efendi, S., H. Demolingo, R., Wiweka, K., & Putri, A. P. (2021). Between Instagrammable Attraction and Selfie Tourist: Characteristic and Behavior. *South Asian Journal of Social Studies and Economics*, 12(4), 314–324. <https://doi.org/10.9734/sajsse/2021/v12i430338>
- Kemp, S. (2020). *Digital 2020: Indonesia* (Digital 2020). Datareportal. <https://datareportal.com/reports/digital-2020-indonesia>
- Kemperman, A. D. A. M., Borgers, A. W. J., & Timmermans, H. J. P. (2009). Tourist shopping behavior in a historic downtown area. *Tourism Management*, 30(2), 208–218. <https://doi.org/10.1016/j.tourman.2008.06.002>
- Kim, Y., Kim, C. ki, Lee, D. K., Lee, H. woo, & Andrada, R. I. T. (2019). Quantifying nature-based tourism in protected areas in developing countries by using social big data. *Tourism Management*, 72(February 2018), 249–256. <https://doi.org/10.1016/j.tourman.2018.12.005>
- Kimerling, A. J., Buckley, A., Muehrcke, P. C., & Muehrcke, J. O. (2016). *Map use: Reading, analysis, interpretation* (8th ed.). Esri Press.
- Kisilevich, S., Keim, D., Andrienko, N., & Andrienko, G. (2013). Geospatial Visualisation. In A. Moore & I. Drecki (Eds.), *Geospatial Visualisation, Lecture Notes in Geoinformation and Cartography*. Springer Berlin Heidelberg. <https://doi.org/10.1007/978-3-642-12289-7>
- Kisilevich, S., Krstajic, M., Keim, D., Andrienko, N., & Andrienko, G. (2010). Event-based analysis of people's activities and behavior using Flickr and Panoramio geotagged photo collections. *Proceedings of the International Conference on Information Visualisation*, 289–296. <https://doi.org/10.1109/IV.2010.94>
- Kitzler, F., & Bicher, M. (2015). Case Studies for a Markov Chain Approach to Analyze Agent-Based Models. *Proceedings of the 4th International Conference on Computer Science and Communication Engineering*, 166–170.

- Kleindorfer, G. B., O'Neill, L., & Ganeshan, R. (1998). Validation in simulation: Various positions in the philosophy of science. *Management Science*, 44(8), 1087–1099. <https://doi.org/10.1287/mnsc.44.8.1087>
- Kraak, M. J., & Fabrikant, S. I. (2017). Of maps, cartography and the geography of the International Cartographic Association. *International Journal of Cartography*, 3(sup1), 9–31. <https://doi.org/10.1080/23729333.2017.1288535>
- Kraak, M. J., & Ormeling, F. (2010). Cartography: Visualization of geospatial data, third edition. In *Cartography: Visualization of Geospatial Data, Third Edition* (3rd ed.). Pearson Education Limited. <https://doi.org/10.4324/9781315847184>
- Krause, T., Beck, E. V., Cherkaoui, R., Germond, A., Andersson, G., & Ernst, D. (2006). A comparison of Nash equilibria analysis and agent-based modelling for power markets. *International Journal of Electrical Power and Energy Systems*, 28(9 SPEC. ISS.), 599–607. <https://doi.org/10.1016/j.ijepes.2006.03.002>
- Kulldorff, M. (2018). *SaTScan™ User Guide*. SaTScan.
- Kulshrestha, J., Kooti, F., Nikraves, A., & Gummadi, K. P. (2012). Geographic dissection of the Twitter network. *ICWSM 2012 - Proceedings of the 6th International AAAI Conference on Weblogs and Social Media*, 202–209.
- Kumar, A., & Garg, G. (2020). Systematic literature review on context-based sentiment analysis in social multimedia. *Multimedia Tools and Applications*, 79(21–22), 15349–15380. <https://doi.org/10.1007/s11042-019-7346-5>
- Kurniawan, D., Wahyuni, H., & Sutan, A. J. (2021). Analysis of Tourism Promotion Strategies Through Twitter Social Media: A Case Study in Yogyakarta. *Journal of Local Government Issues*, 4(1), 76–89. <https://doi.org/10.22219/logos.v4i1.14732>
- Laney, D. (2001). *3D data management: Controlling data volume, velocity, and variety*, META Group. <https://blogs.gartner.com/doug-laney/files/2012/01/ad949-3D-Data-Management-Controlling-Data-Volume-Velocity-and-Variety.pdf>
- Lau, G., & McKercher, B. (2006a). Understanding Tourist Movement Patterns in a Destination: A GIS Approach. *Tourism and Hospitality Research*, 7(1), 39–49. <https://doi.org/10.1057/palgrave.thr.6050027>
- Lau, G., & McKercher, B. (2006b). Understanding Tourist Movement Patterns in a Destination: A GIS Approach. *Tourism and Hospitality Research*, 7(1), 39–49. <https://doi.org/10.1057/palgrave.thr.6050027>

- Leask, A. (2016). Visitor attraction management: A critical review of research 2009–2014. *Tourism Management*, 57, 334–361. <https://doi.org/10.1016/j.tourman.2016.06.015>
- Leung, D., Law, R., Van Hoof, H., & Buhalis, D. (2013). Social Media in Tourism and Hospitality: A Literature Review. *Journal of Travel & Tourism Marketing*, 30(1–2), 3–22. <https://doi.org/10.1080/10548408.2013.750919>
- Lew, A. A., & McKercher, B. (2002). Trip destinations, gateways and itineraries: The example of Hongkong. *Tourism Management*, 23(6), 609–621. [https://doi.org/10.1016/S0261-5177\(02\)00026-2](https://doi.org/10.1016/S0261-5177(02)00026-2)
- Lew, A. A., & McKercher, B. (2006). Modeling tourist movements: A local destination analysis. *Annals of Tourism Research*, 33(2), 403–423. <https://doi.org/10.1016/j.annals.2005.12.002>
- Li, D., Zhou, X., & Wang, M. (2018). Analyzing and visualizing the spatial interactions between tourists and locals: A Flickr study in ten US cities. *Cities*, 74, 249–258. <https://doi.org/10.1016/j.cities.2017.12.012>
- Li, J., Xu, L., Tang, L., Wang, S., & Li, L. (2018). Big data in tourism research: A literature review. *Tourism Management*, 68, 301–323. <https://doi.org/10.1016/j.tourman.2018.03.009>
- Li, L., Goodchild, M. F., & Xu, B. (2013). Spatial, temporal, and socioeconomic patterns in the use of twitter and flickr. *Cartography and Geographic Information Science*, 40(2), 61–77. <https://doi.org/10.1080/15230406.2013.777139>
- Li, S., Yang, Y., Zhing, Z., & Tang, X. (2021). Agent-Based Modeling of Spatial Spillover Effects in Visitor Flows. *Journal of Travel Research*, 60(3), 546–563. <https://doi.org/10.1177/0047287520930105>
- Li, T., Zhang, M., Jiang, H., & Jing, P. (2022). Understanding the Modifiable Areal Unit Problem and Identifying Appropriate Spatial Units while Studying the Influence of the Built Environment on the Traffic System State. *Journal of Advanced Transportation*, 2022, 1–11. <https://doi.org/10.1155/2022/8288248>
- Li, X., Pan, B., Law, R., & Huang, X. (2017). Forecasting tourism demand with composite search index. *Tourism Management*, 59, 57–66. <https://doi.org/10.1016/j.tourman.2016.07.005>
- Li, Z., Wang, C., Emrich, C. T., & Guo, D. (2018). A novel approach to leveraging social media for rapid flood mapping: A case study of the 2015 South Carolina floods.

- Cartography and Geographic Information Science*, 45(2), 97–110.
<https://doi.org/10.1080/15230406.2016.1271356>
- Lin, G., Lin, M. S., & Song, H. (2024). An Assessment of Prospect Theory in Tourism Decision-Making Research. *Journal of Travel Research*, 63(2), 275–297.
<https://doi.org/10.1177/00472875231171673>
- Liu, B. (2012). *Sentiment Analysis and Opinion Mining*. Morgan & Claypool.
<https://doi.org/10.1007/978-3-031-02145-9>
- Liu, B., Hu, M., & Cheng, J. (2005). Opinion Observer: Analyzing and Comparing Opinions on the Web. *Proceedings of the 14th International Conference on World Wide Web*, 342–351.
- Liu, S., Benckendorff, P., & Mair, J. (2023). How Do Tourists Use Metaheuristics for Decision-Making Mediated by Smartphones in a Destination? *Journal of Travel Research*, 62(8), 1848–1863. <https://doi.org/10.1177/00472875221140905>
- Liu, X., Yuan, Q., Cong, G., & Xu, D. (2013). Where your photo is taken: Geolocation Prediction for Social Images. *Journal of the American Society for Information Science and Technology*, 64(6), 1852–1863. <https://doi.org/10.1002/asi>
- Liu, Y. (2008). *Modelling Urban Development with Geographical Information Systems and Cellular Automata*. CRC Press. <https://doi.org/10.1201/9781420059908>
- Liu, Z., Zhou, X., Shi, W., & Zhang, A. (2018). Towards Detecting Social Events by Mining Geographical Patterns with VGI Data. *ISPRS International Journal of Geo-Information*, 7(12), 481. <https://doi.org/10.3390/ijgi7120481>
- Long, L. M. (2004). Culinary Tourism: A Folkloristic Perspective on Eating and Otherness. In L. M. Long (Ed.), *Culinary Tourism* (p. 306). The University Press of Kentucky.
- Longley, P. A., & Adnan, M. (2016). Geo-temporal Twitter demographics. *International Journal of Geographical Information Science*, 30(2), 369–389.
<https://doi.org/10.1080/13658816.2015.1089441>
- Longley, P. A., Adnan, M., & Lansley, G. (2015). The Geotemporal Demographics of Twitter Usage. *Environment and Planning A*, 47(2), 465–484.
<https://doi.org/10.1068/a130122p>
- Luo, F., Cao, G., Mulligan, K., & Li, X. (2016). Explore spatiotemporal and demographic characteristics of human mobility via Twitter: A case study of Chicago. *Applied Geography*, 70, 11–25. <https://doi.org/10.1016/j.apgeog.2016.03.001>

- Lwin, K. K., Zettsu, K., & Sugiura, K. (2015). Geovisualization and correlation analysis between geotagged Twitter and JMA rainfall data: Case of heavy rain disaster in Hiroshima. *ICSDM 2015 - Proceedings 2015 2nd IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services*, 71–76. <https://doi.org/10.1109/ICSDM.2015.7298028>
- Macal, C. M., & North, M. J. (2010). Tutorial on agent-based modelling and simulation. *Journal of Simulation*, 4(3), 151–162. <https://doi.org/10.1057/jos.2010.3>
- MacEachren, A. M. (1994). Visualization in Modern Cartography: Setting the Agenda. In A. M. MacEachren & D. R. F. Taylor (Eds.), *Visualization in Modern Cartography* (pp. 1–12). Pergamon.
- MacEachren, A. M., & Kraak, M. J. (1997). Exploratory cartographic visualization advancing the agenda. *Computers and Geosciences*, 23(4), 335–343. [https://doi.org/10.1016/S0098-3004\(97\)00018-6](https://doi.org/10.1016/S0098-3004(97)00018-6)
- Mancini, F., Coghill, G. M., & Lusseau, D. (2018). Using social media to quantify spatial and temporal dynamics of nature-based recreational activities. *PLOS ONE*, 13(7), e0200565. <https://doi.org/10.1371/journal.pone.0200565>
- Maria, G. A. (2016). Classification Of Various Forms Of Tourism. *Annals of Faculty of Economics, University of Oradea*, 2, 313–319.
- Martin-Fuentes, E., & Daries-Ramón, N. (2014). Promotion of tourism through social networks. *Tourism and Hospitality International Journal*, 2(March), 34–55.
- Martin-Fuentes, E., & Ramon, N. D. (2014). *Promotion of tourism through social networks*.
- Martins, M., & Santos, A. (2024). Exploring the potential of Flickr User–Generated Content for Tourism Research: Insights from Portugal. *European Journal of Tourism, Hospitality and Recreation*, 14(2), 258–272. <https://doi.org/10.2478/ejthtr-2024-0019>
- Mavragani, E., Nikolaidou, P., & Theodoraki, E. (2019). Traveler segmentation through Social Media for intercultural marketing purposes: The case of Halkidiki. *Journal of Tourism, Heritage & Services Marketing*, 5(1), 15–23.
- McInnes, L., & Healy, J. (2017). Accelerated Hierarchical Density Based Clustering. *IEEE International Conference on Data Mining Workshops, ICDMW*, 33–42. <https://doi.org/10.1109/ICDMW.2017.12>

- McInnes, L., Healy, J., & Astels, S. (2017). hdbscan: Hierarchical density based clustering. *The Journal of Open Source Software*, 2(11), 1–2. <https://doi.org/10.21105/joss.00205>
- McKercher, B., & Lau, G. (2008). Movement patterns of tourists within a destination. *Tourism Geographies*, 10(3), 355–374. <https://doi.org/10.1080/14616680802236352>
- McKercher, B., & Lew, A. A. (2008). Tourist Flows and the Spatial Distribution of Tourists. In *A Companion to Tourism*. <https://doi.org/10.1002/9780470752272.ch3>
- Mill, R. C. (2010). *Tourism: The International Business*. The Open University of Hong Kong. <https://doi.org/10.1177/001088049103200126>
- Miller, H. J., & Goodchild, M. F. (2015). Data-driven geography. *GeoJournal*, 80(4), 449–461. <https://doi.org/10.1007/s10708-014-9602-6>
- Mings, R. C., & McHugh, K. E. (1992). The Spatial Configuration of Travel to Yellowstone National Park. *Journal of Travel Research*, 30(4), 38–46. <https://doi.org/10.1177/004728759203000406>
- Mislove, A., Lehmann, S., Ahn, Y.-Y., Onnela, J.-P., & Rosenquist, J. N. (2011). Understanding the Demographics of Twitter Users. *Int'l AAAI Conference on Weblogs and Social Media (ICWSM)*, 554–557.
- Mou, N., Yuan, R., Yang, T., Zhang, H., Tang, J., & Makkonen, T. (2019). Exploring spatio-temporal changes of city inbound tourism flow: The case of Shanghai, China. *Tourism Management*, 76(2020). <https://doi.org/10.1016/j.tourman.2019.103955>
- Mou, N., Yuan, R., Yang, T., Zhang, H., Tang, J., & Makkonen, T. (2020). Exploring spatio-temporal changes of city inbound tourism flow: The case of Shanghai, China. *Tourism Management*, 76, 103955. <https://doi.org/10.1016/j.tourman.2019.103955>
- Muritala, B. A., Hernández-Lara, A. B., & Sánchez-Rebull, M. V. (2022). COVID-19 staycations and the implications for leisure travel. *Heliyon*, 8(10). <https://doi.org/10.1016/j.heliyon.2022.e10867>
- Murtfeldt, R., Alterman, N., Kahveci, I., & West, J. D. (2024). *RIP Twitter API: A eulogy to its vast research contributions* (No. arXiv:2404.07340). arXiv. <https://doi.org/10.48550/arXiv.2404.07340>
- Musaev, A., Wang, D., Shridhar, S., Lai, C. A., & Pu, C. (2015). Toward a Real-Time Service for Landslide Detection: Augmented Explicit Semantic Analysis and Clustering Composition Approaches. *Proceedings - 2015 IEEE International*

- Conference on Web Services, ICWS 2015*, 511–518.
<https://doi.org/10.1109/ICWS.2015.74>
- Nicholls, S., Amelung, B., & Student, J. (2017). Agent-Based Modeling: A Powerful Tool for Tourism Researchers. *Journal of Travel Research*, 56(1), 3–15.
<https://doi.org/10.1177/0047287515620490>
- North, M. J., & Macal, C. M. (2007). Managing Business Complexity: Discovering Strategic Solutions with Agent-Based Modeling and Simulation. In *Managing Business Complexity: Discovering Strategic Solutions with Agent-Based Modeling and Simulation*. <https://doi.org/10.1093/acprof:oso/9780195172119.001.0001>
- Önder, I., Koerbitz, W., & Hubmann-Haidvogel, A. (2016). Tracing Tourists by Their Digital Footprints: The Case of Austria. *Journal of Travel Research*, 55(5), 566–573.
<https://doi.org/10.1177/0047287514563985>
- O’Sullivan, D., & Unwin, D. J. (2010). Geographic Information Analysis: Second Edition. In *Geographic Information Analysis: Second Edition*.
<https://doi.org/10.1002/9780470549094>
- Padilla, J. J., Kavak, H., Lynch, C. J., Gore, R. J., & Diallo, S. Y. (2018). Temporal and spatiotemporal investigation of tourist attraction visit sentiment on Twitter. *PLoS ONE*, 13(6), 1–20. <https://doi.org/10.1371/journal.pone.0198857>
- Paltoglou, G. (2014). Sentiment Analysis in Social Media. In *Lecture Notes in Networks and Systems* (Vol. 434, pp. 3–17). https://doi.org/10.1007/978-3-7091-1340-0_1
- Pang, B., & Lee, L. (2008). Opinion Mining and Sentiment Analysis. *Foundations and Trends in Information Retrieval*, 2(1–2), 1–135. <https://doi.org/10.1561/15000000011>
- Park, S., Xu, Y., Jiang, L., Chen, Z., & Huang, S. (2020). Spatial structures of tourism destinations: A trajectory data mining approach leveraging mobile big data. *Annals of Tourism Research*, 84, 102973. <https://doi.org/10.1016/j.annals.2020.102973>
- Parker, D. C., Manson, S. M., Janssen, M. A., Hoffmann, M. J., & Deadman, P. (2003). Multi-agent systems for the simulation of land-use and land-cover change: A review. *Annals of the Association of American Geographers*, 93(2), 314–337.
<https://doi.org/10.1111/1467-8306.9302004>
- Peng, X., & Huang, Z. (2017). A Novel Popular Tourist Attraction Discovering Approach Based on Geo-Tagged Social Media Big Data. *ISPRS International Journal of Geo-Information*, 6(7), 216. <https://doi.org/10.3390/ijgi6070216>

- Philander, K., & Zhong, Y. (2016). Twitter sentiment analysis: Capturing sentiment from integrated resort tweets. *International Journal of Hospitality Management*, 55, 16–24. <https://doi.org/10.1016/j.ijhm.2016.02.001>
- Picazo, P., & Moreno-Gil, S. (2019). Analysis of the projected image of tourism destinations on photographs: A literature review to prepare for the future. *Journal of Vacation Marketing*, 25(1), 3–24. <https://doi.org/10.1177/1356766717736350>
- Porras-Bernardez, F., & Gartner, G. (2021). A social media-based framework for tourist behaviour analysis and characterization in urban environments. *Proceedings of the ICA*, 4, 1–8. <https://doi.org/10.5194/ica-proc-4-90-2021>
- Prager, S. D., & Wiegand, R. P. (2014). Modeling Use of Space from Social Media Data Using a Biased Random Walker. *Transactions in GIS*, 18(6), 817–833. <https://doi.org/10.1111/tgis.12069>
- Prideaux, B. (2000). The role of the transport system in destination development. *Tourism Management*, 21(1), 53–63. [https://doi.org/10.1016/S0261-5177\(99\)00079-5](https://doi.org/10.1016/S0261-5177(99)00079-5)
- Rahmayani, D., Oktavilia, S., Suseno, D. A., Isnaini, E. L., & Supriyadi, A. (2022). Tourism Development and Economic Growth: An Empirical Investigation for Indonesia. *Economics Development Analysis Journal*, 11(1), 1–11. <https://doi.org/10.15294/edaj.v11i1.50009>
- Raidi. (2025, January 16). Yogyakarta Authorities Push for ‘Quality Tourism’ in 2025. *Indonesia Sentinel*. <https://indonesiasentinel.com/yogyakarta-authorities-push-for-quality-tourism-in-2025/>
- Rashidi, T. H., Abbasi, A., Maghrebi, M., Hasan, S., & Waller, T. S. (2017). Exploring the capacity of social media data for modelling travel behaviour: Opportunities and challenges. *Transportation Research Part C: Emerging Technologies*, 75, 197–211. <https://doi.org/10.1016/j.trc.2016.12.008>
- Richards, G., & Munster, W. (2010). Developments and Perspectives in Cultural Tourism Research. In G. Richards & W. Munster (Eds.), *Cultural Tourism Research Methods* (p. 214). CAB International.
- Rijmenam, M. van. (2013). *Why the 3v’s are not sufficient to describe big data*, *BigData Startups*. <https://datafloq.com/read/3vs-sufficient-describe-big-data/166>
- Ripley, B. D. (1977). Modelling Spatial Patterns. *Journal of the Royal Statistical Society. Series B (Methodological)*, 39(2), 172–212.

- Santa, F., Henriques, R., Torres-Sospedra, J., & Pebesma, E. (2019). A Statistical Approach for Studying the Spatio-Temporal Distribution of Geolocated Tweets in Urban Environments. *Sustainability*, *11*(3), 595. <https://doi.org/10.3390/su11030595>
- Schadschneider, A., Klingsch, W., Klüpfel, H., Kretz, T., Rogsch, C., & Seyfried, A. (2009). Evacuation Dynamics: Empirical Results, Modeling and Applications. In R. A. Meyer (Ed.), *Extreme Environmental Events* (Issue January, pp. 3142–3176). Springer-Verlag. https://doi.org/10.1007/978-1-4419-7695-6_29
- Shaji, H. E., Tangirala, A. K., & Vanajakshi, L. (2020). Prediction Of Trends In Bus Travel Time Using Spatial Patterns. *Transportation Research Procedia*, *48*, 998–1007. <https://doi.org/10.1016/j.trpro.2020.08.128>
- Shao, H., Zhang, Y., & Li, W. (2017). Extraction and analysis of city's tourism districts based on social media data. *Computers, Environment and Urban Systems*, *65*, 66–78. <https://doi.org/10.1016/j.compenvurbsys.2017.04.010>
- Shaw, G., & Williams, A. M. (2004). *Tourism and Tourism Spaces*. SAGE Publications Ltd.
- Shoval, N., & Ahas, R. (2016). The use of tracking technologies in tourism research: The first decade. *Tourism Geographies*, *18*(5), 587–606. <https://doi.org/10.1080/14616688.2016.1214977>
- Shoval, N., McKercher, B., Ng, E., & Birenboim, A. (2011). Hotel location and tourist activity in cities. *Annals of Tourism Research*, *38*(4), 1594–1612. <https://doi.org/10.1016/j.annals.2011.02.007>
- Silverman, B. W. (1998). *Density Estimation for Statistics and Data Analysis*. Chapman & Hall.
- Sloan, L., & Morgan, J. (2015). Who Tweets with Their Location? Understanding the Relationship between Demographic Characteristics and the Use of Geoservices and Geotagging on Twitter. *PLOS ONE*, *10*(11), e0142209. <https://doi.org/10.1371/journal.pone.0142209>
- Slocum, T. A., McMaster, R. B., Kessler, F. C., & Howard, H. H. (2008). Thematic Cartography and Geovisualization. In K. C. Clarke (Ed.), *Prentice Hall series in geographic information science* (Second). Pearson Education. <https://doi.org/10.1098/rsta.2015.0150>
- Soliman, A., Soltani, K., Yin, J., Padmanabhan, A., & Wang, S. (2017). Social sensing of urban land use based on analysis of Twitter users' mobility patterns. *PLOS ONE*, *12*(7), e0181657. <https://doi.org/10.1371/journal.pone.0181657>

- Spyrou, E., & Mylonas, P. (2016). A survey on Flickr multimedia research challenges. *Engineering Applications of Artificial Intelligence*, 51, 71–91. <https://doi.org/10.1016/j.engappai.2016.01.006>
- Sterman, J. D. (2000). *Business Dynamics: Systems Thinking and Modeling for A Complex World*. McGraw-Hill Companies.
- Stock, K. (2018). Mining location from social media: A systematic review. *Computers, Environment and Urban Systems*, 71(March), 209–240. <https://doi.org/10.1016/j.compenvurbsys.2018.05.007>
- Sui, D., Elwood, S., & Goodchild, M. (2013). Crowdsourcing geographic Knowledge: Volunteered geographic information (VGI) in theory and practice. In *Crowdsourcing Geographic Knowledge: Volunteered Geographic Information (VGI) in Theory and Practice*. <https://doi.org/10.1007/978-94-007-4587-2>
- Sulistya, A. B. (2016). *Tren Perkembangan Pariwisata Daerah Istimewa Yogyakarta Periode 2006-2014*. Universitas Sanata Dharma.
- Sun, Y., Fan, H., Bakillah, M., & Zipf, A. (2015). Road-based travel recommendation using geo-tagged images. *Computers, Environment and Urban Systems*, 53, 110–122. <https://doi.org/10.1016/j.compenvurbsys.2013.07.006>
- Sun, Y., Fan, H., Helbich, M., & Zipf, A. (2013). Analyzing Human Activities Through Volunteered Geographic Information: Using Flickr to Analyze Spatial and Temporal Pattern of Tourist Accommodation. In J. M. Krisp (Ed.), *Progress in Location-Based Services* (pp. 57–69). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-34203-5_4
- Tabatabaei, F. (2019). The Social and Economic Impacts of Tourism Development on the Local Community Satisfaction: Case Study Isfahan City, Iran. *Journal of City and Development*, 1(1), 1–7. <https://doi.org/10.12691/jcd-1-1-1>
- Takhteyev, Y., Gruzd, A., & Wellman, B. (2012). Geography of Twitter networks. *Social Networks*, 34(1), 73–81. <https://doi.org/10.1016/j.socnet.2011.05.006>
- Taylor, D. R. F. (1991). Chapter 1—Geographic Information Systems: The Microcomputer and Modern Cartography. In F. Taylor (Ed.), *Geographic Information Systems* (Vol. 1, pp. 1–20). Academic Press. <https://doi.org/10.1016/B978-0-08-040277-2.50009-X>
- Thatcher, J. (2014). Living on fumes: Digital footprints, data fumes, and the limitations of spatial big data. *International Journal of Communication*, 8(1), 1765–1783.

- Tobler, W. R. (1976). Analytical cartography. *The American Cartographer*, 3(1), 21–31. <https://doi.org/10.1559/152304076784080230>
- Truscott, J., & Ferguson, N. M. (2012). Evaluating the Adequacy of Gravity Models as a Description of Human Mobility for Epidemic Modelling. *PLoS Computational Biology*, 8(10). <https://doi.org/10.1371/journal.pcbi.1002699>
- Tsai, C. W., Lai, C. F., Chao, H. C., & Vasilakos, A. V. (2015). Big data analytics: A survey. *Journal of Big Data*, 2(21), 1–32. <https://doi.org/10.1186/s40537-015-0030-3>
- Tsou, M. H., & Leitner, M. (2013). Visualization of social media: Seeing a mirage or a message? *Cartography and Geographic Information Science*, 40(2), 55–60. <https://doi.org/10.1080/15230406.2013.776754>
- Urry, J. (2000). *Sociology Beyond Societies: Mobilities for the 21st Century*. Routledge.
- Vanhove, N. (2005). *The Economics of Tourism Destinations* (1st ed.). Elsevier Butterworth-Heinemann.
- Vazakidis, A., & Karagiannis, I. (2011). Activity-based management and traditional costing in tourist enterprises (a hotel implementation model). *Operational Research*, 11(2), 123–147. <https://doi.org/10.1007/s12351-009-0049-3>
- Vu, H. Q., Li, G., Law, R., & Ye, B. H. (2015). Exploring the travel behaviors of inbound tourists to Hong Kong using geotagged photos. *Tourism Management*, 46, 222–232. <https://doi.org/10.1016/j.tourman.2014.07.003>
- Vu, H. Q., Li, G., Law, R., & Zhang, Y. (2018). Tourist Activity Analysis by Leveraging Mobile Social Media Data. *Journal of Travel Research*, 57(7), 883–898. <https://doi.org/10.1177/0047287517722232>
- Wahid, D. H. & Azhari. (2016). Peringkasan Sentimen Esktraktif di Twitter Menggunakan Hybrid TF-IDF dan Cosine Similarity. *IJCCS (Indonesian Journal of Computing and Cybernetics Systems)*, 10(2), 207. <https://doi.org/10.22146/ijccs.16625>
- Wang, Y., Wang, M., Li, K., & Zhao, J. (2021). Analysis of the relationships between tourism efficiency and transport accessibility—A case study in hubei province, china. *Sustainability (Switzerland)*, 13(15). <https://doi.org/10.3390/su13158649>
- Wibowo, T. W., Bustomi, A. F., & Sukamdi, A. V. (2019). Tourist Attraction Popularity Mapping based on Geotagged Tweets. *Forum Geografi*, 33(1), 82–100. <https://doi.org/10.23917/forgeo.v33i1.8021>
- Wibowo, T. W., Rofi'i, A., & Sulistyaningrum, N. A. (2019). Density analysis of Flickr data as a proxy to reveal the intensity of tourism activity in Borobudur. In S. B. Wibowo,

- A. B. Rimba, A. A. Aziz, S. Phinn, J. T. Sri Sumantyo, H. Widiasamratri, & S. Arjasakusuma (Eds.), *Sixth Geoinformation Science Symposium* (p. 39). SPIE. <https://doi.org/10.1117/12.2549040>
- Wibowo, T. W., Santosa, S. H. M. B., Susilo, B., & Purwanto, T. H. (2021a). Geotemporal analysis and topic modelling of Twitter data: Study in nine big city areas of Indonesia. *Proceedings of SPIE - The International Society for Optical Engineering*, 1208216(December), 37. <https://doi.org/10.1117/12.2619356>
- Wibowo, T. W., Santosa, S. H. M. B., Susilo, B., & Purwanto, T. H. (2021b). Revealing tourist hotspots in yogyakarta city based on social media data clustering. *Geojournal of Tourism and Geosites*, 34(1), 218–225. <https://doi.org/10.30892/gtg.34129-640>
- Wibowo, T. W., Santosa, S. H. M. B., Susilo, B., & Purwanto, T. H. (2024). A review from a geospatial perspective on how COVID-19 is affecting tourist activity in Yogyakarta city. In A. Blanco, A. B. Rimba, C. Roelfsema, & S. Arjasakusuma (Eds.), *Eighth Geoinformation Science Symposium 2023: Geoinformation Science for Sustainable Planet* (Vol. 12977, p. 11). SPIE. <https://doi.org/10.1117/12.3009333>
- Wijayanti, A., & Damanik, J. (2019). *Analysis of the tourist experience of management of a heritage tourism product: Case study of the Sultan Palace of Yogyakarta, Indonesia. July 2018*. <https://doi.org/10.1080/1743873X.2018.1494182>
- Wijayanti, A., Fathurahman, E. B., Putri, E. D. H., & Yulianto, A. (2022). The effectiveness of social media as a tourism promotion tool of the Yogyakarta tourism department. In H. Oktadiana, M. Rahmanita, R. Suprina, & P. Junyang (Eds.), *Current Issues in Tourism, Gastronomy, and Tourist Destination Research* (pp. 162–170). Taylor & Francis. <https://doi.org/10.1201/9781003248002-22>
- Williams, S. (2009). *Tourism Geography*. Routledge. <https://doi.org/10.4324/9780203877555>
- Wirakusuma, R. M. (2014). Analisis Karakter Wisatawan Mancanegara terhadap Fasilitas Wisata Kawasan Prawirotaman. *Jurnal Pariwisata*, 1(1), 42–51.
- Woo, E., Kim, H., & Uysal, M. (2015). Life satisfaction and support for tourism development. *Annals of Tourism Research*, 50, 84–97. <https://doi.org/10.1016/j.annals.2014.11.001>
- Wooldridge, M., & Jennings, N. R. (1995). Intelligent agents: Theory and practice. *The Knowledge Engineering Review*, 10(2), 115–152. <https://doi.org/10.1017/S0269888900008122>

- Wu, J., Wang, X., & Pan, B. (2018). Agent-based simulations of China inbound tourism network. *Scientific Reports*, 1–17. <https://doi.org/10.1038/s41598-019-48668-2>
- Wu, J., Wang, X., & Pan, B. (2019). Agent-based simulations of China inbound tourism network. *Scientific Reports*, 9(1), 12325. <https://doi.org/10.1038/s41598-019-48668-2>
- Xia, J. (Cecilia), Zeepongsekul, P., & Arrowsmith, C. (2009). Modelling spatio-temporal movement of tourists using finite Markov chains. *Mathematics and Computers in Simulation*, 79(5), 1544–1553. <https://doi.org/10.1016/j.matcom.2008.06.007>
- Xiang, Z., Du, Q., Ma, Y., & Fan, W. (2017). A comparative analysis of major online review platforms: Implications for social media analytics in hospitality and tourism. *Tourism Management*, 58, 51–65. <https://doi.org/10.1016/j.tourman.2016.10.001>
- Xiao-Ting, H., & Bi-Hu, W. (2012). Intra-attraction Tourist Spatial-Temporal Behaviour Patterns. *Tourism Geographies*, 14(4), 625–645. <https://doi.org/10.1080/14616688.2012.647322>
- Xu, Y., Ran, X., Liu, Y., & Huang, W. (2021). Comparing differences in the spatiotemporal patterns between resident tourists and non-resident tourists using hotel check-in registers. *Tourism Management Perspectives*, 39, 100860. <https://doi.org/10.1016/j.tmp.2021.100860>
- Yang, E. C. L., Khoo-Lattimore, C., & Arcodia, C. (2017). A systematic literature review of risk and gender research in tourism. *Tourism Management*, 58, 89–100. <https://doi.org/10.1016/j.tourman.2016.10.011>
- Yang, L., Wu, L., Liu, Y., & Kang, C. (2017). Quantifying tourist behavior patterns by travel motifs and geo-tagged photos from flickr. *ISPRS International Journal of Geo-Information*, 6(11), 1–18. <https://doi.org/10.3390/ijgi6110345>
- Yang, X., Pan, B., Evans, J. A., & Lv, B. (2015). Forecasting Chinese tourist volume with search engine data. *Tourism Management*, 46, 386–397. <https://doi.org/10.1016/j.tourman.2014.07.019>
- Yattaw, N. J. (1999). Conceptualizing space and time: A classification of geographic movement. *Cartography and Geographic Information Science*, 26(2), 85–98. <https://doi.org/10.1559/152304099782330734>
- Yin, J., & Du, Z. (2016). Exploring multi-scale spatiotemporal twitter user mobility patterns with a visual-analytics approach. *ISPRS International Journal of Geo-Information*, 5(10), 1–18. <https://doi.org/10.3390/ijgi5100187>

- Yinxia, L. O. U., Zhang, Y., Fei, L. I., Qian, T., & Donghong, J. I. (2020). Emoji-based sentiment analysis using attention networks. *ACM Transactions on Asian and Low-Resource Language Information Processing*, 19(5). <https://doi.org/10.1145/3389035>
- Yunus, H. S. (2010). *Metodologi Penelitian Wilayah Kontemporer*. Pustaka Pelajar.
- Zellner, M. L. (2008). Embracing complexity and uncertainty: The potential of agent-based modeling for environmental planning and policy. *Planning Theory and Practice*, 9(4), 437–457. <https://doi.org/10.1080/14649350802481470>
- Zhang, S., Zhen, F., Wang, B., Li, Z., & Qin, X. (2022). Coupling Social Media and Agent-Based Modelling: A Novel Approach for Supporting Smart Tourism Planning. *Journal of Urban Technology*, 29(2), 79–97. <https://doi.org/10.1080/10630732.2020.1847987>
- Zhang, W., Tan, G., Lei, M., Guo, X., & Sun, C. (2018). Detecting tourist attractions using geo-tagged photo clustering. *Chinese Sociological Dialogue*, 3(1), 3–16. <https://doi.org/10.1177/2397200917752649>
- Zheng, Y. T., Zha, Z. J., & Chua, T. S. (2012). Mining travel patterns from geotagged photos. *ACM Transactions on Intelligent Systems and Technology*, 3(3). <https://doi.org/10.1145/2168752.2168770>
- Zhong, L., Sun, S., & Law, R. (2019). Movement patterns of tourists. *Tourism Management*, 75(May), 318–322. <https://doi.org/10.1016/j.tourman.2019.05.015>
- Zoltan, J., & McKercher, B. (2015). Analysing intra-destination movements and activity participation of tourists through destination card consumption. *Tourism Geographies*, 17(1), 19–35. <https://doi.org/10.1080/14616688.2014.927523>