UNIVERSITAS
GADJAH MADA
Prediksi Perkembangan Lahan Terbangun Menggunakan Cellular Automata Berbasis Citra Landsat Pan-Sharpened di Kota Magelang Dan Wilayah Sekitarnya Tahun 2013-2031
Hasna Rafifa Balqis, Dr. Iswari Nur Hidayati, S.Si., M.Sc. ; Dr. Bowo Susilo, S.Si., M.T.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Aburas, M. M., Ahamad, M. S. S., & Omar, N. Q. (2019). Spatio-temporal simulation and prediction of land-use change using conventional and machine learning models: a review. Environmental Monitoring and Assessment, 191(4), 1–28. https://doi.org/10.1007/S10661-019-7330-6/TABLES/8

Ae, P. H. (2015). An Introduction to Logistic Regression: From Basic Concepts to Interpretation with Particular Attention to Nursing Domain. Journal of Korean Academy of Nursing, 43(2), 154–164. https://doi.org/10.4040/JKAN.2013.43.2.154

Alzubi, J., Nayyar, A., & Kumar, A. (2018). Machine Learning from Theory to Algorithms: An Overview. Journal of Physics: Conference Series, 1142(1), 012012. https://doi.org/10.1088/1742-6596/1142/1/012012

Anderson, J. R. (1971). Land Use Classification Schemes Used in Selected Recent Geographic Applications of Remote Sensing. Photogrammetric Engineering, 37(4), 379–387.

Bartuska, T., & McClure, W. (2011). The Built Environment: A Collaborative Inquiry Into Design and Planning. John Wiley & Sons.

Batty, M. (2007). Cities and Complexity: Understanding Cities with Cellular Automata, Agent-Based Models, and Fractals. MIT Press.

Beckers, V., Poelmans, L., Van Rompaey, A., & Dendoncker, N. (2020). The impact of urbanization on agricultural dynamics: a case study in Belgium. Journal of Land Use Science, 15(5), 626–643. https://doi.org/10.1080/1747423X.2020.1769211

Belgiu, M., & Drăgu, L. (2016). Random forest in remote sensing: A review of applications and future directions. ISPRS Journal of Photogrammetry and Remote Sensing, 114, 24–31. https://doi.org/10.1016/J.ISPRSJPRS.2016.01.011

Bere, R. C., Precup, I. B., & Silvestru, C. I. (2015). On Growth Poles from EU Countries in the Framework of Europe 2020. Procedia Economics and Finance, 23, 920–925. https://doi.org/10.1016/S2212-5671(15)00519-5

Bikku, T. (2020). Multi-layered deep learning perceptron approach for health risk prediction. Journal of Big Data, 7(1), 1–14. https://doi.org/10.1186/S40537-020-00316-7/FIGURES/7

Boateng, E. Y., Otoo, J., Abaye, D. A., Boateng, E. Y., Otoo, J., & Abaye, D. A. (2020). Basic Tenets of Classification Algorithms K-Nearest-Neighbor, Support Vector Machine, Random Forest and Neural Network: A Review.

UNIVERSITAS
GADJAH MADA
Prediksi Perkembangan Lahan Terbangun Menggunakan Cellular Automata Berbasis Citra Landsat Pan-Sharpened di Kota Magelang Dan Wilayah Sekitarnya Tahun 2013-2031
Hasna Rafifa Balqis, Dr. Iswari Nur Hidayati, S.Si., M.Sc. ; Dr. Bowo Susilo, S.Si., M.T.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Journal of Data Analysis and Information Processing, 8(4), 341–357. https://doi.org/10.4236/JDAIP.2020.84020

Breiman, L. (2001). Random forests. Machine Learning, 45(1), 5–32. https://doi.org/10.1023/A:1010933404324/METRICS

Chan, K. Y., Abu-Salih, B., Qaddoura, R., Al-Zoubi, A. M., Palade, V., Pham, D. S., Ser, J. Del, & Muhammad, K. (2023). Deep neural networks in the cloud: Review, applications, challenges and research directions. Neurocomputing, 545. https://doi.org/10.1016/j.neucom.2023.126327

Chaturvedi, V., & de Vries, W. T. (2021). Machine Learning Algorithms for Urban Land Use Planning: A Review. Urban Science 2021, Vol. 5, Page 68, 5(3), 68. https://doi.org/10.3390/URBANSCI5030068

Chen, G., Zhou, Y., Voogt, J. A., & Stokes, E. C. (2024). Remote sensing of diverse urban environments: From the single city to multiple cities. Remote Sensing of Environment, 305, 114108. https://doi.org/10.1016/J.RSE.2024.114108

Choate, M. J., Rengarajan, R., Hasan, M. N., Denevan, A., & Ruslander, K. (2023). Operational Aspects of Landsat 8 and 9 Geometry. Remote Sensing 2024, Vol. 16, Page 133, 16(1), 133. https://doi.org/10.3390/RS16010133

Chouhan, R., & Shekhawat, H. (2025). AI-driven Urban Growth Prediction: A Cellular Automata Approach with Geospatial and Machine Learning Integration. REVISTA LATINOAMERICANA DE LA PAPA, 29(1), 01–12. https://papaslatinas.org/index.php/rev-alap/article/view/56

Danoedoro, P. (2012). Pengantar Penginderaan Jauh Digital. Penerbit ANDI.

Destianto, R., & Pigawati, B. (2014). Analisis Keterkaitan Perubahan Lahan Pertanian Terhadap Ketahanan Pangan Kabupaten Magelang Berbasis Model Spatio Temporal Sig. Geoplanning: Journal of Geomatics and Planning, 1(1). https://doi.org/10.14710/GEOPLANNING.1.1.21-32

Eastman, R. (2006). IDRISI Andes Guide to GIS and Image Processing. Clark University.

ESRI. (2025). Understanding Euclidean distance analysis—ArcGIS Pro | Documentation. https://pro.arcgis.com/en/pro-app/latest/tool-reference/spatial-analyst/understanding-euclidean-distance-analysis.htm

Fadlin, I. (2021). Perkembangan Psikologis Anak Usia Pendidikan Dasar; Emosional, Kognitif, dan Psikomotor. Jurnal Al-Fikrah, 10(2), 180–192. https://doi.org/10.54621/JIAF.V10I2.161

Fahyudi, D. I., Christiawan, P. I., & Sarmita, I. M. (2020). Perkembangan Luas Permukiman Dan Penggunaan Lahan Pada Daerah Peri-Urban Kota Singaraja

UNIVERSITAS
GADJAH MADA
Prediksi Perkembangan Lahan Terbangun Menggunakan Cellular Automata Berbasis Citra Landsat Pan-Sharpened di Kota Magelang Dan Wilayah Sekitarnya Tahun 2013-2031
Hasna Rafifa Balqis, Dr. Iswari Nur Hidayati, S.Si., M.Sc. ; Dr. Bowo Susilo, S.Si., M.T.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Tahun 2010, 2015 Dan 2020. Jurnal Pendidikan Geografi Undiksha, 8(3), 140–147. https://doi.org/10.23887/JJPG.V8I3.29541

Feng, Y., & Tong, X. (2019). Incorporation of spatial heterogeneity-weighted neighborhood into cellular automata for dynamic urban growth simulation. GIScience & Remote Sensing, 56(7), 1024–1045. https://doi.org/10.1080/15481603.2019.1603187

Fremmuzar, P., & Baita, A. (2023). Uji Kernel SVM dalam Analisis Sentimen Terhadap Layanan Telkomsel di Media Sosial Twitter. Komputika : Jurnal Sistem Komputer, 12(2), 57–66. https://doi.org/10.34010/KOMPUTIKA.V12I2.9460

Frimpong, B. F., & Molkenthin, F. (2021). Tracking Urban Expansion Using Random Forests for the Classification of Landsat Imagery (1986–2015) and Predicting Urban/Built-Up Areas for 2025: A Study of the Kumasi Metropolis, Ghana. Land 2021, Vol. 10, Page 44, 10(1), 44. https://doi.org/10.3390/LAND10010044

Gharaibeh, A., Shaamala, A., Obeidat, R., & Al-Kofahi, S. (2020). Improving land-use change modeling by integrating ANN with Cellular Automata-Markov Chain model. Heliyon, 6(9), e05092. https://doi.org/10.1016/J.HELIYON.2020.E05092

Gilbertson, J. K., Kemp, J., & van Niekerk, A. (2017). Effect of pan-sharpening multi-temporal Landsat 8 imagery for crop type differentiation using different classification techniques. Computers and Electronics in Agriculture, 134, 151–159. https://doi.org/10.1016/J.COMPAG.2016.12.006

Hafid, S. (2021). Simulasi Spasial Berbasis Citra Landsat, Cellular Automata dan Regresi Logistik Biner Untuk Prediksi Perubahan Penggunaan Lahan Pertanian di Kabupaten Karawang [Tesis-S2]. Universitas Gadjah Mada.

Hafiz, A. A., Usman, F., Hidayat, A. R. T., & Zakiyah, D. M. (2025). Spatiotemporal Dynamics of Urban Sprawl Types in the Peri-Urban Area of Malang Municipality, Indonesia. Urban Science 2025, Vol. 9, Page 313, 9(8), 313. https://doi.org/10.3390/URBANSCI9080313

Hagenauer, J., Omrani, H., & Helbich, M. (2019). Assessing the performance of 38 machine learning models: the case of land consumption rates in Bavaria, Germany. International Journal of Geographical Information Science, 33(7), 1399–1419. https://doi.org/10.1080/13658816.2019.1579333

Hamad, R., Balzter, H., & Kolo, K. (2018). Predicting Land Use/Land Cover Changes Using a CA-Markov Model under Two Different Scenarios. Sustainability 2018, Vol. 10, Page 3421, 10(10), 3421. https://doi.org/10.3390/SU10103421

UNIVERSITAS
GADJAH MADA
Prediksi Perkembangan Lahan Terbangun Menggunakan Cellular Automata Berbasis Citra Landsat Pan-Sharpened di Kota Magelang Dan Wilayah Sekitarnya Tahun 2013-2031
Hasna Rafifa Balqis, Dr. Iswari Nur Hidayati, S.Si., M.Sc. ; Dr. Bowo Susilo, S.Si., M.T.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Jafari, M., Majedi, H., Monavari, S. M., Alesheikh, A. A., & Zarkesh, M. K. (2016). Dynamic Simulation of Urban Expansion Based on Cellular Automata and Logistic Regression Model: Case Study of the Hyrcanian Region of Iran. Sustainability 2016, Vol. 8, Page 810, 8(8), 810. https://doi.org/10.3390/SU8080810

Jagtap, A. D., & Karniadakis, G. E. (2023). How Important Are Activation Functions In Regression And Classification? A Survey, Performance Comparison, And Future Directions. Journal of Machine Learning for Modeling and Computing, 4(1), 21–75. https://doi.org/10.1615/JMACHLEARNMODELCOMPUT.2023047367

Jawak, S. D., Luis, A. J., Jawak, S. D., & Luis, A. J. (2013). A Comprehensive Evaluation of PAN-Sharpening Algorithms Coupled with Resampling Methods for Image Synthesis of Very High Resolution Remotely Sensed Satellite Data. Advances in Remote Sensing, 2(4), 332–344. https://doi.org/10.4236/ARS.2013.24036

Kamusoko, C., & Gamba, J. (2015). Simulating Urban Growth Using a Random Forest-Cellular Automata (RF-CA) Model. ISPRS International Journal of Geo-Information 2015, Vol. 4, Pages 447-470, 4(2), 447–470. https://doi.org/10.3390/IJGI4020447

Khalil, M., Alsmadi, S., Bin Omar, K., & Noah, S. A. (2009). Back Propagation Algorithm: The Best Algorithm Among the Multi-layer Perceptron Algorithm. IJCSNS International Journal of Computer Science and Network Security, 9(4).

Kotsiopoulos, T., Sarigiannidis, P., Ioannidis, D., & Tzovaras, D. (2021). Machine Learning and Deep Learning in smart manufacturing: The Smart Grid paradigm. Computer Science Review, 40, 100341. https://doi.org/10.1016/J.COSREV.2020.100341

Kumar, S., Radhakrishnan, N., & Mathew, S. (2014). Land use change modelling using a Markov model and remote sensing. Geomatics, Natural Hazards and Risk, 5(2), 145–156. https://doi.org/10.1080/19475705.2013.795502

Kurnia, A. (2019). Modifikasi Resolusi Model Cellular Automata Untuk Simulasi Perkembangan Perkotaan Malang Dan Daerah Pinggirannya Berbasis Citra Landsat [Tesis-S2]. Universitas Gadjah Mada.

Kusumaningrat, M. D., Subiyanto, S., & Yuwono, B. D. (2017). Analisis Perubahan Penggunaan Dan Pemanfaatan Lahan Terhadap Rencana Tata Ruang Wilayah Tahun 2009 Dan 2017 (Studi kasus : Kabupaten Boyolali). Jurnal Geodesi Undip, 6(4), 443–452. https://doi.org/10.14710/JGUNDIP.2017.18175

UNIVERSITAS
GADJAH MADA
Prediksi Perkembangan Lahan Terbangun Menggunakan Cellular Automata Berbasis Citra Landsat Pan-Sharpened di Kota Magelang Dan Wilayah Sekitarnya Tahun 2013-2031
Hasna Rafifa Balqis, Dr. Iswari Nur Hidayati, S.Si., M.Sc. ; Dr. Bowo Susilo, S.Si., M.T.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Lestari, W. (Windy), & Pratomoatmojo, N. A. (Nursakti). (2019). Pemodelan Spasial Prediksi Perkembangan Kawasan Permukiman Berbasis Cellular Automata dengan Pendekatan Kependudukan di Surabaya Timur. Jurnal Teknik ITS, 8(2), 507808. https://doi.org/10.12962/J23373539.V8I2.48665

Leta, M. K., Demissie, T. A., & Tränckner, J. (2021). Modeling and Prediction of Land Use Land Cover Change Dynamics Based on Land Change Modeler (LCM) in Nashe Watershed, Upper Blue Nile Basin, Ethiopia. Sustainability 2021, Vol. 13, Page 3740, 13(7), 3740. https://doi.org/10.3390/SU13073740

Li, X., Zhou, Y., Hejazi, M., Wise, M., Vernon, C., Iyer, G., & Chen, W. (2021). Global urban growth between 1870 and 2100 from integrated high resolution mapped data and urban dynamic modeling. Communications Earth & Environment 2021 2:1, 2(1), 1–10. https://doi.org/10.1038/s43247-021-00273-w

Liao, J., Tang, L., & Shao, G. (2023). Coupling Random Forest, Allometric Scaling, and Cellular Automata to Predict the Evolution of LULC under Various Shared Socioeconomic Pathways. Remote Sensing 2023, Vol. 15, Page 2142, 15(8), 2142. https://doi.org/10.3390/RS15082142

Lin, H. T., Lin, C. J., & Weng, R. C. (2007). A note on Platt's probabilistic outputs for support vector machines. Machine Learning, 68(3), 267–276. https://doi.org/10.1007/S10994-007-5018-6/METRICS

Liu, H., Homma, R., Liu, Q., & Fang, C. (2021). Multi-Scenario Prediction of Intra-Urban Land Use Change Using a Cellular Automata-Random Forest Model. ISPRS International Journal of Geo-Information 2021, Vol. 10, Page 503, 10(8), 503. https://doi.org/10.3390/IJGI10080503

Lwin, K. K., & Murayama, Y. (2013). Evaluation of land cover classification based on multispectral versus pansharpened landsat ETM+ imagery. GIScience and Remote Sensing, 50(4), 458–472. https://doi.org/10.1080/15481603.2013.814279

Maharani, A. (2024). Klasifikasi Tutupan Lahan Kecamatan Mertoyudan Tahun 2015 dan 2022 serta Kesesuaiannya terhadap RTRW Kabupaten Magelang Tahun 2010-2030 [Skripsi S1]. Universitas Gadjah Mada.

Mardiansjah, F. H., Sugiri, A., & Ma'rif, S. (2021). Examining Small-Town Growth and Expansion in Peri-urban Areas of Small Cities: Evidence from Peripheries of Three Small Cities in Central Java. Journal of Regional and City Planning, 32(3), 216–232. https://doi.org/10.5614/JPWK.2021.32.3.2

Marlina, D. (2022). Klasifikasi Tutupan Lahan pada Citra Sentinel-2 Kabupaten Kuningan dengan NDVI dan Algoritme Random Forest. STRING (Satuan

UNIVERSITAS
GADJAH MADA
Prediksi Perkembangan Lahan Terbangun Menggunakan Cellular Automata Berbasis Citra Landsat Pan-Sharpened di Kota Magelang Dan Wilayah Sekitarnya Tahun 2013-2031
Hasna Rafifa Balqis, Dr. Iswari Nur Hidayati, S.Si., M.Sc. ; Dr. Bowo Susilo, S.Si., M.T.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Tulisan Riset Dan Inovasi Teknologi), 7(1), undefined-undefined. https://doi.org/10.30998/STRING.V7I1.12948

Maurer, T. (2013). How to pan-sharpen images using the Gram-Schmidt pan-sharpen method - A recipe. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 40(1W1), 239–244. https://doi.org/10.5194/ISPRSARCHIVES-XL-1-W1-239-2013

Megahed, Y., Cabral, P., Silva, J., & Caetano, M. (2015). Land Cover Mapping Analysis and Urban Growth Modelling Using Remote Sensing Techniques in Greater Cairo Region—Egypt. ISPRS International Journal of Geo-Information 2015, Vol. 4, Pages 1750-1769, 4(3), 1750–1769. https://doi.org/10.3390/IJGI4031750

Mohammady, S., Delavar, M. R., & Pahlavani, P. (2014). Urban growth modeling using an Artificial Neural Network a case study of Sanandaj city, Iran. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 40(2W3), 203–208. https://doi.org/10.5194/ISPRSARCHIVES-XL-2-W3-203-2014

Mountrakis, G., Im, J., & Ogole, C. (2011). Support vector machines in remote sensing: A review. ISPRS Journal of Photogrammetry and Remote Sensing, 66(3), 247–259. https://doi.org/10.1016/J.ISPRSJPRS.2010.11.001

Mustafa, A., Rienow, A., Saadi, I., Cools, M., & Teller, J. (2018). Comparing support vector machines with logistic regression for calibrating cellular automata land use change models. European Journal of Remote Sensing, 51(1), 391–401. https://doi.org/10.1080/22797254.2018.1442179

Mutiara, F., Pane, R., Suprayogi, A., & Sabri, L. M. (2019). Analisis Pengaruh Perubahan Tutupan Lahan Daerah Aliran Sungai Tahun 2013 Dan 2018 Terhadap Peningkatan Debit Puncak Sungai Kaligarang. Jurnal Geodesi Undip, 9(1), 285–294. https://doi.org/10.14710/JGUNDIP.2020.26173

Nababan, B. E., & Zarlis, M. (2015). Analisis Fungsi Aktivasi Sigmoid Biner Dan Sigmoid Bipolar Dalam Algoritma Backpropagation Pada Prediksi Kemampuan Siswa. Jurnal Teknovasi, 02(1), 103–116.

NASA. (2025). Landsat Science. https://landsat.gsfc.nasa.gov/

Noraini, A., & Mabrur, A. Y. (2020). Perbandingan Visualisasi Hasil Deteksi Area Terbangun Berdasarkan Metode Maximum Likelihood Classification (MLC) dan Normalized Difference Built-Up Index (NDBI) Visualization Comparison of Built-Up Area Detection Based on Maximum Likelihood Classification (MLC) and Normalized Difference Built-Up Index (NDBI) Methods. 16(01).

UNIVERSITAS
GADJAH MADA
Prediksi Perkembangan Lahan Terbangun Menggunakan Cellular Automata Berbasis Citra Landsat Pan-Sharpened di Kota Magelang Dan Wilayah Sekitarnya Tahun 2013-2031
Hasna Rafifa Balqis, Dr. Iswari Nur Hidayati, S.Si., M.Sc. ; Dr. Bowo Susilo, S.Si., M.T.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Nugraha, F., Baskoro, D. P. T., & Tarigan, S. D. (2025). Evaluasi Algoritma Machine Learning untuk Klasifikasi dan Prediksi Penggunaan Lahan. Majalah Geografi Indonesia, 39(1), 19–28. https://doi.org/10.22146/MGI.99150

Nurhayati, E. (2024). Pemetaan Perubahan Tutupan Lahan Terbangun Mengunakan Algoritma Random Forest pada Citra Satelit (Studi Kasus : Kota Magelang) [Tugas Akhir D4]. Universitas Gadjah Mada.

Ouma, Y. O., Nkwae, B., Odirile, P., Moalafhi, D. B., Anderson, G., Parida, B., & Qi, J. (2024). Land-Use Change Prediction in Dam Catchment Using Logistic Regression-CA, ANN-CA and Random Forest Regression and Implications for Sustainable Land–Water Nexus. Sustainability 2024, Vol. 16, Page 1699, 16(4), 1699. https://doi.org/10.3390/SU16041699

Pálsson, F., Sveinsson, J. R., Benediktsson, J. A., & Aanæs, H. (2012). Classification of pansharpened urban satellite images. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 5(1), 281–297. https://doi.org/10.1109/JSTARS.2011.2176467

Parasdyo, M. M. (2016). Komparasi Akurasi Model Cellular Automata untuk Simulasi Perkembangan Lahan Terbangun dari Berbagai Variasi Matriks Probabilitas Transisi. Kasus: Bagian Timur Kota Yogyakarta [Skripsi S1]. Universitas Gadjah Mada.

Park, S., Jeon, S., Kim, S., & Choi, C. (2011). Prediction and comparison of urban growth by land suitability index mapping using GIS and RS in South Korea. Landscape and Urban Planning, 99(2), 104–114. https://doi.org/10.1016/J.LANDURBPLAN.2010.09.001

Perroux, F. (1950). Economic space: Theory and applications. Quarterly Journal of Economics, 64(1), 89–104. https://doi.org/10.2307/1881960

Pontius, R. G., Boersma, W., Castella, J. C., Clarke, K., Nijs, T., Dietzel, C., Duan, Z., Fotsing, E., Goldstein, N., Kok, K., Koomen, E., Lippitt, C. D., McConnell, W., Mohd Sood, A., Pijanowski, B., Pithadia, S., Sweeney, S., Trung, T. N., Veldkamp, A. T., & Verburg, P. H. (2008). Comparing the input, output, and validation maps for several models of land change. Annals of Regional Science, 42(1), 11–37. https://doi.org/10.1007/S00168-007-0138-2/METRICS

Prabandari, A. A., Dwi, M., & Manessa, M. (2024). Analisis Perkembangan Lahan Terbangun Berdasarkan Metode Supervised Classification Menggunakan Google Earth Engine (Studi Kasus: Desa Ciputi, Kecamatan Pacet, Kab.Cianjur). Jurnal Tanah Dan Sumberdaya Lahan, 11(2), 403–412. https://doi.org/10.21776/UB.JTSL.2024.011.2.11

Purwadhi, S. (2001). Interpretasi Citra Digital. Gramedia Widiasarana Indonesia. https://lib.ui.ac.id

UNIVERSITAS
GADJAH MADA
Prediksi Perkembangan Lahan Terbangun Menggunakan Cellular Automata Berbasis Citra Landsat Pan-Sharpened di Kota Magelang Dan Wilayah Sekitarnya Tahun 2013-2031
Hasna Rafifa Balqis, Dr. Iswari Nur Hidayati, S.Si., M.Sc. ; Dr. Bowo Susilo, S.Si., M.T.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Rahmadewi, R., & Kurniati, E. (2025). DAMPAK ALIH FUNGSI LAHAN TERHADAP PEMBANGUNAN DAERAH: STUDI KASUS DI KABUPATEN KENDAL. Jurnal Ilmu Ekonomi, 4(1), 298–322. https://doi.org/10.59827/JIE.V4I1.225

Rodriguez-Galiano, V. F., Ghimire, B., Rogan, J., Chica-Olmo, M., & Rigol-Sanchez, J. P. (2012). An assessment of the effectiveness of a random forest classifier for land-cover classification. ISPRS Journal of Photogrammetry and Remote Sensing, 67(1), 93–104. https://doi.org/10.1016/J.ISPRSJPRS.2011.11.002

Rokni, K. (2023). INVESTIGATING THE IMPACT OF PAN SHARPENING ON THE ACCURACY OF LAND COVER MAPPING IN LANDSAT OLI IMAGERY. Geodesy and Cartography (Vilnius), 49(1), 12–18. https://doi.org/10.3846/GAC.2023.15308

Rusdin, M., Putra, R., & Rudiarto, I. (2018). SIMULASI PERUBAHAN PENGGUNAAN LAHAN DENGAN KONSEP CELLULER AUTOMATA DI KOTA MATARAM. Jurnal Pengembangan Kota, 6(2), 174–185. https://doi.org/10.14710/jpk.6.2.174-185

Ruslisan, Faiza Syifa Zahira, & Roswita Dharmasanti. (2015). Prediksi Perubahan Penggunaan Lahan Terbangun Terhadap Kesesuaian Rancangan Tata Ruang Wilayah Menggunakan Regresi Logistic Binner Berdasar Data Spasial dan Penginderaan Jauh di Kota Semarang . Conference on URBAN STUDIES AND DEVELOPMENT, 51–67.

Safari, I. (2017). Konversi Lahan Pertanian Produktif Akibat Pertumbuhan Lahan Terbangun di Kecamatan Kota Sumenep [Skripsi-S1]. Universitas Brawijaya.

Sankarrao, L., Ghose, D. K., & Rathinsamy, M. (2021). Predicting land-use change: Intercomparison of different hybrid machine learning models. Environmental Modelling & Software, 145, 105207. https://doi.org/10.1016/J.ENVSOFT.2021.105207

Serifoglu Yilmaz, C., Yilmaz, V., & Gungor, O. (2022). A theoretical and practical survey of image fusion methods for multispectral pansharpening. Information Fusion, 79, 1–43. https://doi.org/10.1016/J.INFFUS.2021.10.001

Shafizadeh-Moghadam, H., Tayyebi, A., Ahmadlou, M., Delavar, M. R., & Hasanlou, M. (2017). Integration of genetic algorithm and multiple kernel support vector regression for modeling urban growth. Computers, Environment and Urban Systems, 65, 28–40. https://doi.org/10.1016/J.COMPENVURBSYS.2017.04.011

Shi, W., Goodchild, M., Batty, M., Kwan, M.-P., & Zhang, A. (2021). Urban Informatics. Springer.

UNIVERSITAS
GADJAH MADA
Prediksi Perkembangan Lahan Terbangun Menggunakan Cellular Automata Berbasis Citra Landsat Pan-Sharpened di Kota Magelang Dan Wilayah Sekitarnya Tahun 2013-2031
Hasna Rafifa Balqis, Dr. Iswari Nur Hidayati, S.Si., M.Sc. ; Dr. Bowo Susilo, S.Si., M.T.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Shyam, R., & Singh, R. (2021). A Taxonomy of Machine Learning Techniques. JOURNAL OF ADVANCEMENTS IN ROBOTICS, 8(3), 18–25. https://stmcomputers.stmjournals.com/index.php/JoARB/article/view/144

Soenarmo, S. (2009). Penginderaan Jauh dan Pengenalan Sistem Informasi Geografis Untuk Bidang Ilmu Kebumian. Penerbit ITB. https://opac.ut.ac.id/detail-opac?id=32924

Soms, N., Priya, S., & Malathi. (2015). A Review on Support Vector Machine: A Classification Method. Conference: National Conference on Recent Advances in Design, Automation and Intelligent Systems.

Sugiyono. (2017). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Alfabeta.

Suharyadi. (2011). Interpretasi Hibrida Citra Satelit Resolusi Spasial Menengah untuk Kajian Densifikasi Bangunan Daerah Perkotaan di Daerah Perkotaan Yogyakarta [Disertasi-S3]. Universitas Gadjah Mada.

Sunartono. (1995). Optimalisasi Pemanfaatan Lahan di Perkotaan Melalui Pembangunan Kawasan Siap Bangun. Seminar Nasional Empat Windu Fakultas Geografi UGM.

Suprayogi, R. (2022). Kesesuaian Perubahan Penggunaan Lahan Dengan Rencana Tata Ruang Di Kawasan Peri-Urban. Jurnal Kajian Ruang. https://www.academia.edu/86074174/Kesesuaian_Perubahan_Penggunaan_Lahan_Dengan_Rencana_Tata_Ruang_Di_Kawasan_Peri_Urban

Suryaningsih, W., Siregar, H., & Mulatsih, S. (2024). Pengaruh Pembangunan Jalan Tol terhadap Perubahan Tata Guna Lahan dan Luas Lahan Sawah di Kabupaten Brebes. TATALOKA, 26(3), 154–164. https://doi.org/10.14710/TATALOKA.26.3.154-164

Suryantoro. (2002). Perubahan Penggunaan Lahan Kota Yogyakarta Tahun 1959 – 1996 dengan Menggunakan Foto Udara [Disertasi-S3]. Universitas Gadjah Mada.

Thomas, C., Ranchin, T., Wald, L., & Chanussot, J. (2008). Synthesis of multispectral images to high spatial resolution: A critical review of fusion methods based on remote sensing physics. IEEE Transactions on Geoscience and Remote Sensing, 46(5), 1301–1312. https://doi.org/10.1109/TGRS.2007.912448

USGS. (2019). Landsat 8 Data Users Handbook (5th ed.). U.S. Geological Survey.

USGS. (2022). Landsat 9 Data Users Handbook (1st ed.). U.S. Geological Survey.

Vapnik, V. (2000). The Nature of Statistical Learning Theory (2nd ed.). Springer.

UNIVERSITAS
GADJAH MADA
Prediksi Perkembangan Lahan Terbangun Menggunakan Cellular Automata Berbasis Citra Landsat Pan-Sharpened di Kota Magelang Dan Wilayah Sekitarnya Tahun 2013-2031
Hasna Rafifa Balqis, Dr. Iswari Nur Hidayati, S.Si., M.Sc. ; Dr. Bowo Susilo, S.Si., M.T.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Verhulst, M., Heremans, S., Blaschko, M. B., & Somers, B. (2024). Temporal Transferability of Tree Species Classification in Temperate Forests with Sentinel-2 Time Series. Remote Sensing 2024, Vol. 16, Page 2653, 16(14), 2653. https://doi.org/10.3390/RS16142653

White, R., & Engelen, G. (1993). Cellular automata and fractal urban form: a cellular modelling approach to the evolution of urban land-use patterns. Environment & Planning A, 25(8), 1175–1199. https://doi.org/10.1068/A251175;PAGE:STRING:ARTICLE/CHAPTER

Yang, J., Tang, W., Gong, J., Shi, R., Zheng, M., & Dai, Y. (2023). Simulating urban expansion using cellular automata model with spatiotemporally explicit representation of urban demand. Landscape and Urban Planning, 231, 104640. https://doi.org/10.1016/J.LANDURBPLAN.2022.104640

Yang, Q., Li, X., & Shi, X. (2008). Cellular automata for simulating land use changes based on support vector machines. Computers & Geosciences, 34(6), 592–602. https://doi.org/10.1016/J.CAGEO.2007.08.003

Yasin, Muh. N. B. A., & Pratomoatmojo, N. A. (2021). Analisis Fenomena Densifikasi Perkotaan pada Wilayah Surabaya Timur dengan Metode Point Pattern Analysis. Jurnal Teknik ITS, 10(1), 508169. https://doi.org/10.12962/J23373539.V10I1.60517

Ye, X., Yu, W., Lv, L., Zang, S., & Ni, H. (2021). An Improved Case-Based Reasoning Model for Simulating Urban Growth. Sustainability 2021, Vol. 13, Page 6146, 13(11), 6146. https://doi.org/10.3390/SU13116146

Yen A., G. O., & Li, X. (2001). A constrained CA model for the simulation and planning of sustainable urban forms by using GIS. Environment and Planning B: Planning and Design, 28(5), 733–753. https://doi.org/10.1068/B2740;WGROUP:STRING:PUBLICATION

Yuliastuti, N., Fatchurochman, A., Sudarto, J. H., & Semarang, T. (2012). Pengaruh Perkembangan Lahan Terbangun Terhadap Kualitas Lingkungan Permukiman (Studi Kasus: Kawasan Pendidikan Kelurahan Tembalang). Jurnal Presipitasi : Media Komunikasi Dan Pengembangan Teknik Lingkungan, 9(1), 10–16. https://doi.org/10.14710/PRESIPITASI.V9I1.10-16

Zahrotunisa, S., Wicaksono, P., Studi Kartografi dan Penginderaan Jauh, P., Sistem Informasi Geografis, D., Geografi, F., & Gadjah Mada, U. (2017). Prediksi Spasial Perkembangan Lahan Terbangun Melalui Pemanfaatan Citra Landsat Multitemporal di Kota Bogor. Jurnal Online Informatika, 2(1), 30–35. https://doi.org/10.15575/JOIN.V2I1.88

Zhang, J., Wu, D., Zhu, A. X., & Zhu, Y. (2023). Modelling urban expansion with cellular automata supported by urban growth intensity over time. Annals of

UNIVERSITAS
GADJAH MADA
Prediksi Perkembangan Lahan Terbangun Menggunakan Cellular Automata Berbasis Citra Landsat Pan-Sharpened di Kota Magelang Dan Wilayah Sekitarnya Tahun 2013-2031
Hasna Rafifa Balqis, Dr. Iswari Nur Hidayati, S.Si., M.Sc. ; Dr. Bowo Susilo, S.Si., M.T.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

GIS, 29(3), 337–353. https://doi.org/10.1080/19475683.2023.2181393;WGROUP:STRING:PUBLICATION