
PROFESSIONAL SUMMARY

A dedicated spatial analyst and researcher with over 5 years of experience in leveraging geospatial data science to address environmental challenges. Expertise in sustainable development, climate change adaptation, and disaster risk reduction, focusing on supporting SDGs 3, 11, and 13. Proficient in spatial analytics, data analysis, Python for research, and extracting actionable insights from complex datasets. Published in high-impact journals and recognised for mentoring students in research excellence. Seeking to further contribute to sustainable development and environmental resilience.

RESEARCH INTERESTS

- Geospatial Data Science
- Remote Sensing
- Geohazard prediction and mapping
- Smart and sustainable cities
- Atmospheric Science
- Climate Science
- Environmental pollution
- Disaster risk reduction and management

EDUCATION

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| <p>❖ Doctor of Philosophy (PhD)
Monash University
Department of Civil Engineering
Major: Geospatial Artificial Intelligence (GeoAI) and Flood Modelling</p> <p>❖ Master of Science (MSc)
Universiti Teknologi Petronas, Malaysia
Department of Civil and Environmental Engineering
Major: Environmental and Geomatics Engineering
Thesis: Air Pollution Modelling in Malaysia using GIS & Machine Learning</p> <p>❖ Bachelor of Technology (B.Tech)
Federal University of Technology Akure, Nigeria
Department of Remote Sensing and Geoscience Information System
Major: Remote sensing and geospatial science
Dissertation: Flood Susceptibility Mapping Using GIS and MCDM</p> | <p>2023 – 2027</p> <p>2019 – 2022</p> <p>2012 – 2017</p> |
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RESEARCH EXPERIENCE

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| <p>❖ Doctoral Research
<i>Civil Engineering Department, Monash University</i></p> | <p>2023 - 2027
Malaysia</p> |
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During my tenure as a Doctoral Researcher at Monash University, I conducted in-depth research in civil engineering, focusing on applying Geospatial Artificial Intelligence (GeoAI) to support sustainable development. My responsibilities included:

- Conducting extensive research in the GeoAI application for disaster risk reduction and management to support sustainable development goals.
- Utilising Google Earth Engine (GEE), Python, and data analysis techniques to extract meaningful insights from geospatial data.
- Contributing to academic writing and research publications in the area of geospatial analytics and sustainable development.

❖ **Graduate Research Assistant**

2019 – 2021

Civil Engineering Department, Universiti Teknologi Petronas

Malaysia

During my tenure as a Graduate Researcher in the Geospatial Analysis and Modelling (GAM) Research Laboratory, Department of Civil & Environmental Engineering, I conducted in-depth research on applying geospatial analytics for air pollution to support sustainable development. My responsibilities included:

- Designed research proposal and identified the research gaps
- Developed models for examining the influence of climatic change on air pollution concentration
- Conducted spatial prediction of PM10 using XGBoost, Random Forest, Naïve Bayes, and KNN
- Developed an ensemble Fuzzy-AHP for flood susceptibility mapping
- Conducted and published an extensive literature review on air pollution and sea-level rise
- Published a research paper in a top-tier journal, resulting in increased visibility for the department

Achievements:

- Got a full conference grant.
- Published research and review articles in high-ranking journals.
- Academic excellence awards in research publications in top-ranking journals

❖ **Rhodium Research Cloud Scientist**

2018 – 2022

Foresight Institute of Research and Translation

Nigeria

- Drafted research papers related to environmental sustainability for publication in peer-reviewed journals and presented research findings at international conferences
- Conducted a literature review and identified new research areas, resulting in the successful publication of a research paper
- Planned and implemented undergraduate conference
- Planned and implemented new content for the company website.

TEACHING AND MENTORING EXPERIENCE

❖ **Teaching Assistant**

2023 – 2027

Department of Civil Engineering, Monash University

- Designed and evaluated course assessments to ensure students comprehended key concepts and stayed on track with course objectives.
- Delivered practical demonstrations of ArcGIS Pro, guiding students through hands-on applications.
- Provided in-class support, assisting students during lectures and fostering a collaborative learning environment.

❖ **Teaching Assistant, GIS for Civil Engineers**

2019 – 2021

Department of Civil and Environmental Engineering, Universiti Teknologi Petronas

- Designed and delivered engaging tutorials and class activities to apply geospatial technology in civil engineering, enhancing undergraduate understanding.

- Developed and evaluated course assessments to ensure students grasped key topics and remained aligned with course objectives.
- Conducted hands-on demonstrations using ArcGIS and QGIS, facilitating laboratory sessions for practical learning.

❖ **Instructor, Geomatics**

2019 – 2021

Department of Civil and Environmental Engineering, Universiti Teknologi Petronas

- Delivered lectures and practical lessons on surveying techniques, using effective pedagogical approaches to engage undergraduates.
- Demonstrated the setup and operation of surveying equipment, providing students with essential fieldwork experience.
- Instructed students on Global Positioning System (GPS) applications, enhancing their technical understanding of geospatial technologies.
- Assessed student progress through hands-on involvement and conceptual understanding.

❖ **Graduate Mentor, Undergraduates' Final Year Project**

2019 – 2021

Department of Civil and Environmental Engineering, Universiti Teknologi Petronas

- Mentored and supervised six undergraduates, guiding them in data collection and analysis for their final-year projects.
- Assisted students in applying machine learning techniques to predict forest fires, erosion, and flooding, fostering research innovation.
- Tutored students on using AHP and Fuzzy AHP to map flood risks, erosion, and landslides, enhancing their analytical skills.
- Provided guidance on research presentation, helping students effectively communicate their findings.

PUBLICATIONS (* indicates the corresponding author)

Published Peer-reviewed Journal Papers

1. **Tella, A.**, Mustafa, M.R.U., Animashaun, G. *et al.* Data-driven landfill suitability mapping in Lagos State using GIS-based multi-criteria decision making. *Int. J. Environ. Sci. Technol.* (2024). <https://doi.org/10.1007/s13762-024-05803-5>
2. Ayodele, E., Okolie, C., Akinnusi, ... **Tella, A.**, An assessment of the spatio-temporal dynamics of Landsat-derived aerosol concentration in relation with land cover and road networks in the Lagos megacity. *Environ Sci Pollut Res* (2023). <https://doi.org/10.1007/s11356-022-25042-w>
3. Yamusa, I.B.; Ismail, M.S.; **Tella, A.** Highway Proneness Appraisal to Landslides along Taiping to Ipoh Segment Malaysia, Using MCDM and GIS Techniques. *Sustainability* 2022, *14*, 9096. <https://doi.org/10.3390/su14159096>
4. Abdul-Lateef Balogun, Tan Yong Sheng, Muhammad Helmy Sallehuddin, Yusuf Aina, Umar Lawal Dano, Biswajeet Pradhan, Shamsudeen Yekeen & **Abdulwaheed Tella** (2022) Assessment of data mining, Multi-Criteria Decision Making and Fuzzy-computing techniques for spatial flood susceptibility mapping: a comparative study, Geocarto International, DOI: [10.1080/10106049.2022.2076910](https://doi.org/10.1080/10106049.2022.2076910)
5. Abdul-Lateef Balogun, Naheem Adebisi, Ismaila Rimi Abubakar, Umar Lawal Dano & **Abdulwaheed Tella** (2022) Digitalisation for transformative urbanisation, climate change adaptation, and sustainable farming in Africa: trend, opportunities, and challenges, Journal of Integrative Environmental Sciences, DOI: [10.1080/1943815X.2022.2033791](https://doi.org/10.1080/1943815X.2022.2033791)
6. Balogun, A.-L., and **A. Tella***. 2022. 'Modelling and investigating the impacts of climatic variables on ozone concentration in Malaysia using correlation analysis with random forest, decision tree regression, linear regression, and support vector regression', Chemosphere: 134250. DOI: [10.1016/j.chemosphere.2022.134250](https://doi.org/10.1016/j.chemosphere.2022.134250)
7. A.-L. Balogun, **Tella, A.***, Adebisi, N., Baloo, L. A review of the inter-correlation of climate change, air pollution and urban sustainability using novel machine learning algorithms and spatial information science. *Urban Climate*, 2021. **40**: p. 100989. DOI: [10.1016/j.uclim.2021.100989](https://doi.org/10.1016/j.uclim.2021.100989)

8. **Tella, A.***, Balogun, AL. GIS-based air quality modelling: spatial prediction of PM10 for Selangor State, Malaysia using machine learning algorithms. *Environ Sci Pollut Res* (2021). DOI: [10.1007/s11356-021-16150-0](https://doi.org/10.1007/s11356-021-16150-0)
9. **Tella, A.***, A.-L. Balogun, N. Adebisi, and S. Abdullah. 2021. 'Spatial assessment of PM10 hotspots using random forest, K-Nearest Neighbour and Naïve Bayes', *Atmospheric Pollution Research*: 101202. DOI: [10.1016/j.apr.2021.101202](https://doi.org/10.1016/j.apr.2021.101202)
10. Adebisi, N., A.-L. Balogun, T. H. Min, and **A. Tella**. 2021. 'Advances in estimating Sea Level Rise: A review of tide gauge, satellite altimetry and spatial data science approaches', *Ocean & Coastal Management*, 208: 105632. DOI: [10.1016/j.ocecoaman.2021.105632](https://doi.org/10.1016/j.ocecoaman.2021.105632)
11. **Tella, A.**, A.-L. Balogun, and I. Faye (2021) Spatio-temporal modelling of the influence of climatic variables and seasonal variation on PM₁₀ in Malaysia using multivariate regression (MVR) and GIS, *Geomatics, Natural Hazards and Risk*, 12:1, 443-468. DOI: [10.1080/19475705.2021.1879942](https://doi.org/10.1080/19475705.2021.1879942)
12. **Tella, A.**, and A.-L. Balogun. 2020. 'Ensemble fuzzy MCDM for spatial assessment of flood susceptibility in Ibadan, Nigeria', *Natural Hazards*, 104: 2277-306. DOI: [10.1007/s11069-020-04272-6](https://doi.org/10.1007/s11069-020-04272-6)

Book Chapters

1. Balogun, A.-L., Shekhar, H., Budryte, P., ... **Tella, A.**, Yekeen, ST. Urban resilience in the fourth industrial revolution: Transformative digitalisation in European smart cities to address climate change, *Resilient Smart Cities - Theoretical and Empirical Insights*. (Chapter 15), Springer, 2022. DOI: [10.1007/978-3-030-95037-8](https://doi.org/10.1007/978-3-030-95037-8)

Conference Papers and Presentation

1. **Tella, A**; **Mustafa, M R U**; **Balogun, A O**; **Okolie, C J**; **I Bello Yamusa**; et al. Spatial prediction of flood in Kuala Lumpur city of Malaysia using logistic regression. *The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences*; **Göttingen** Vol. XLVIII-4/W6-2022, Göttingen: Copernicus GmbH. (2023): 363-369. DOI:10.5194/isprs-archives-XLVIII-4-W6-2022-363-2023
2. Emmanuel Ayodele, Chukwuma Okolie, Samuel Akinnusi, Erom Mbu-Ogar, Olagoke Daramola, Abdulwaheed Tella, Rose Alani, Alfred Alademomi. [Using remote sensing to monitor Aerosol Optical Thickness \(AOT\) and its relationship with land cover in Lagos Metropolis, Nigeria](#). *Intercontinental Geoinformation Days (IGD)*, 117-120 (3), Mersin, Turkey
3. Chukwuma Okolie, Emmanuel Ayodele, Erom Mbu-Ogar, Samuel Akinnusi, Olagoke Daramola, Abdulwaheed Tella, Rose Alani, Alfred Alademomi. [Remote sensing approach for aerosol optical thickness \(AOT\) monitoring in relation to the road network in Lagos Metropolis, Nigeria](#). *Intercontinental Geoinformation Days (IGD)*, 38-41 (3), Mersin, Turkey
4. **Tella A***, Balogun A & Balogun A (2020). [Spatiotemporal analysis of land-use changes in a metropolitan city in Malaysia](#). *Intercontinental Geoinformation Days (IGD)*, 148-151, Mersin, Turkey
5. Yamusa, I.B., Mohd Suhaili I., and **Tella, A***. 2021. Geospatial Detection of Hidden Lithologies along Taiping to Ipoh Stretch of the Highway Using Medium Resolution Satellite Imagery in Malaysia. *Journal of Advanced Geospatial Science & Technology*, 1(1), 19–37. Retrieved from <https://jagst.utm.my/index.php/jagst/article/view/2>
6. **Tella, A.***, and Balogun, A.-L. (2021). Prediction of Ambient PM10 Concentration in Malaysian Cities Using Geostatistical Analyses. *Journal of Advanced Geospatial Science & Technology*, 1(1), 115–127. Retrieved from <https://jagst.utm.my/index.php/jagst/article/view/9>

PROFESSIONAL DEVELOPMENT & SERVICES

❖ Professional Technologist Certification

2025

Issuing Authority: Malaysia Board of Technologists (MBOT)

Technology Field: Resource-Based, Survey and Geomatics Technology (RB)

Subfields:

- Geographic Information System (GIS)
- Remote Sensing
- **Date Awarded:** [In-View]

- ❖ **IBM Data Analyst Professional Certificate** 2024
IBM
- Completed courses in databases and SQL for data science with Python, Excel basics for data analysis, and data analysis with Python.
 - Gained expertise in data visualisation and creating dashboards using Excel and Cognos.
 - Developed skills in data visualisation with Python and AI development.
 - Completed a Python project for data science, applying real-world data analysis techniques.
 - Successfully finished the IBM Data Analyst Capstone Project, integrating learned concepts to solve complex data problems.
- ❖ **Data Analyst Intern** July – Oct 2021
Shape AI
- Gained hands-on experience in SQL for data analysis, data wrangling, machine learning, and deep learning.
 - Mastered tools and technologies such as GitHub, Seaborn, Python, Matplotlib, Statistics, Pandas, SQL, and NumPy.
- ❖ **Session Host** 13 – 15 July 2021
World Engineering, Science and Technology Congress (ESTCON) 2020
- Coordinated and managed the conference session, ensuring smooth operations throughout the event.
 - Oversaw the timely execution of the program, including facilitating paper presentations and maintaining schedule adherence.
- ❖ **Geospatial Analyst Intern** Mar – Aug 2016
Aerial-View Solution International, Nigeria
- Collaborated with team members to perform geospatial analysis on high-resolution imagery, contributing to various projects.
 - Conducted vectorisation and analysis of very high-resolution imagery, including Worldview and QuickBird satellite images.
 - Tackled challenges effectively, fostering a positive team environment and ensuring smooth project execution.
 - Developed a website using Yahoo Site Builder, enhancing the company's online presence.
- ❖ **Academic Service** 2021- Present
Reviewer for Peer-Reviewed Journals
- Reviewed articles for several academic journals in the fields of geospatial data science, civil engineering, and environmental risk management.
 - Provided constructive feedback and recommendations to ensure the quality and integrity of published research.

VOLUNTEER EXPERIENCE

- ❖ **Foresight Institute of Research and Translation, Nigeria** 2018 – 2022
Volunteer Research Scientist
- Led the planning and implementation of new content for the company website, enhancing its accessibility and information flow.
 - Organised and executed undergraduate conferences, fostering academic engagement and knowledge exchange.
- ❖ **The Torchbearer, FUTA Chapter, Nigeria** 2014 – 2016
Pioneer Grand Ambassador

- Coordinated academic symposiums and quiz competitions, promoting intellectual discussions and student engagement.
- Organised and facilitated tutorial sessions to support student learning and academic success.
- Provided free access to past exam papers and organised pre-exam review sessions to help students prepare effectively.
- Successfully registered the association, formalising its presence and activities during my tenure.

HONOURS AND AWARDS

❖ Letter of Commendation for Teaching Excellence , Monash University Malaysia	2024
❖ Best Student Paper Award , IEEE GRSS Conference	2024
❖ Graduate Research Excellence Scholarship , Monash University	2023-2027
❖ Graduate Assistantship (GA) Scholarship , Universiti Teknologi Petronas	2019-2021
❖ Academic Excellence Award , Civil Engineering, Universiti Teknologi Petronas	2021
❖ GA Merit Award , Centre of Graduate Studies, Universiti Teknologi Petronas	2021
❖ Conference Grant , 14th Saudi GIS symposium full sponsorship	2020
❖ Dean's Roll of Honor , Department of Remote Sensing and GIS, FUTA, Nigeria	2014-2015
❖ Best Graduating Student , Al-Ameen Comprehensive High School, Oyo, Nigeria	2012
❖ Pioneer Student Award , Al-Ameen Comprehensive High School, Oyo, Nigeria	2012

PROFESSIONAL MEMBERSHIPS

- IEEE Geoscience and Remote Sensing
- Foresight Institute of Research and Translation (FIRAT), Ibadan City, Oyo State, Nigeria
- Institution of Geospatial and Remote Sensing Malaysia (IGRSM)
- The Geological Remote Sensing Group (GRSG)
- International Society for Photogrammetry and Remote Sensing (ISPRS)
- Toastmasters International, UTP Chapter, Malaysia

LEADERSHIP EXPERIENCE

• Editor-in-Chief , Say Yes N' Collaborate (SYNC) Magazine, Monash University	2024 – 2025
• Head , The Rhodium Cloud Scientist, FIRAT	2018 – 2021
• Secretary , Undergraduate Conference Planning Committee, FIRAT	2018 – 2019
• Vice President , Old Student Association of Al-Ameen Group of Schools	2012 – 2020
• Presiding Officer , Governorship Election in Osun State, Nigeria	2018
• Headmaster , Al-Mahaaroh School, Akure, Nigeria	2017 – 2018
• Grand Ambassador , The TorchBearer, FUTA, Nigeria	2013 – 2016
• Welfare Director , Association of Remote Sensing and GIS, FUTA	2014 – 2015
• Student Representative , Department of Remote Sensing and GIS, FUTA	2013 – 2014

CERTIFICATIONS

❖ Professional Recognition

- Graduate Technologist (MBOT, 2024)

❖ Data Science & Analytics:

- IBM Data Analyst Professional Certificate (IBM, 2024)
- SQL for Data Science (UCDAVIS, November 2021)
- Big Data Analytics (Griffith University, May 2020)

- Data Analyst Training & Internship (ShapeAI Tech, October 2021)
- Artificial Intelligence: ML Applications in Scientific Research (AIS-NC, UTP, November 2020)
- Application of ANN Modeling (UTP, December 2019)

❖ **Geospatial & Remote Sensing:**

- Imagery in Action (ESRI, September 2021)
- Virtual 2021 ESRI User Conference (ESRI, July 2021)
- The Location Advantage (ESRI, June 2020)
- Cartography (ESRI, June 2020)
- Spatial Data Science: The New Frontier in Analytics (ESRI, April 2020)
- Satellite Remote Sensing for Urban Heat Islands (NASA, November 2020)
- Quantum GIS (QGIS) (Don Bosco CoE, June 2020)
- The 5th Young Surveyors Conference (Trimble Geospatial, May 2020)
- Applied GIS and Spatial Analytics (DICI International, Dec 2015)
- Geospatial Intelligence (Onidex Geospatial, May 2014)

❖ **Sustainability & Environmental Monitoring:**

- Introduction to Sustainability and Development (Deakin University, May 2020)
- Air Pollution Monitoring & Environmental Impact of Tropical Forest and Peatland Fire (ITB & UMT, August 2021)

❖ **Technical Skills & Bootcamps:**

- Python and Network Bootcamp (ShapeAI, July 2021)

SOFTWARE PROFICIENCIES

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| • ESRI ArcGIS Desktop | • ESRI ArcGIS Online | • R-Software |
| • ESRI ArcGIS Pro | • ENVI | • Excel – data analytics |
| • Google Earth Pro | • Python | • QGIS |

REFERENCES

Available on request