Ibrahim Ademola ADENIRAN

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Research Interest

Climate Change
Urban Thermal environment
Forest and Vegetation remote sensing
Machine Learning and Artificial Intelligence

Educational Qualification

Ph.D. Remote Sensing and Geoinformatics, Hong Kong Polytechnic University, Hong Kong   expected July 2024
   Dissertation: Integrated Remote Sensing and Machine Learning Model for Urban Heat Island Analysis
   Committee: Prof. LIU Zhi-zhao, George (chair), Dr. ZHU, Xiaolin (member), Prof.WONG Man-sing (supervisor)

MTech Urban and Regional Planning (Distinction), Federal University of Technology Akure, Nigeria   July 2020
   Thesis: Assessment of Infrastructural Challenges in the Coastal Communities
   Advisor: Professor Julius Fasakin

BTech Urban and Regional Planning (First Class Hons), Federal University of Technology Akure, Nigeria   Sept. 2016
   Thesis: Adaptation Strategies for climate change effects in coastal communities of Ondo State, Nigeria
   Advisor: Doctor Olusola Popoola

Certificate Program

Advanced Google Data Analyst, Google   Jan 2024
   Machine Learning Model for Employee Turnover Prediction

Nanodegree in Machine Learning Fundamentals, Amazon Web Science   Sept. 2023
   Predict Bike Sharing Demand with AutoGluon
   Developing a Handwritten Digits Classifier with PyTorch

Nanodegree AI Programming with Python, Amazon Web Science   March 2023
   Landmark Classification & Tagging for Social Media
    Built a ML Workflow For Scones Unlimited On Amazon SageMaker

Research/Teaching Experience

Research Associate

Hong Kong Polytechnic University, Hong Kong (Remote Sensing Laboratory)   Sept. 2023 – Present

Supervisor: Prof. WONG Man-sing

- Involved in data collection, processing, and drafting research manuscripts for major projects, including:
    - Study of Carbon Sequestration in Hong Kong's Vegetation (a collaborative research project) funded by the Research Grants Council (RGC) of Hong Kong
    - City-Scale seamless near surface temperature data development project.
    - Organize field surveys for data collection, analyse collected data, and draft journal articles based on findings.
- Provide guidance and lecture to research assistants, Master's students, and newly enrolled Ph.D. students.

Research/Teaching Assisstant

Hong Kong Polytechnic University, Hong Kong   Sept. 2020 – Aug. 2023

Supervisor: Prof. Prof. WONG Man-sing

- Conduct novel research in Urban thermal comfort, and vegetation studies including:
    - Smart City Tree Management Project funded by the Jockey Club

- Integrated knowledge-based Remote Sensing and Machine Learning model for the urban thermal environment
- Participate in teaching assignments and coordination of tutorials for undergraduate students in subjects including:
  - Geoprocessing systems (LSGI2224)
  - Geographic Information Science (LSGI2223)

Visiting Researcher

Queens University, Canada Laboratory of Geographic Information and Spatial Analysis   Oct. 2022 – March 2023
Supervisor: Prof. DONGMEI Chen

- Work closely with group members to develop an innovative object-based segmentation algorithm.
- Attend group meetings to listen to or give presentations on research progress or new frontiers in planning and remote sensing research.

Industry Experience

GIS Analyst

Rideau Trail Association. Ontario, Canada   Oct. 2022 – March 2023
Supervisor: Rusty Bassarab

- Generate a digitized map for the Rideau Rail Track in Ontario using ArcGIS Pro

GIS Analyst and intern Supervisor

Toyin Ayinde & Associates, Lagos Nigeria.   Sept. 2020 – Aug. 2023
Supervisor: Tpl. Olutoyin Ayinde

- Draft creative alternative conceptual plans for layout designs based on client briefs.
- Conduct site supervision and pilot UAV drone for mapping and site surveys.
- Supervise, train, and develop course modules for interns and industrial training students.
- Carry out spatial and locational analysis of project sites using ArcGIS, Golden Surfer, and other analytical tools.
- Conduct environmental impact assessments.

Intern

Toyin Ayinde & Associates, Lagos Nigeria.   June. 2015 – Dec. 2015
Supervisor: Tpl. Olutoyin Ayinde

- Attend training sessions on various environmental and physical planning design software and technical skills.
- Utilize acquired skills for layout design, site analysis, and field surveys.
- Participate in various office management and design activities.

Publications (September 2018 - Present)

Journal Publications

Adeniran, I., Otokiti, K. V., & Durojaye, P. (2020). Climate Change Impacts in a Rapidly Growing Urban Region–A Case Study of Ikeja, Lagos, Nigeria. *International Journal of Environmental Planning and Management*, *6*(1), 13-23.

Adeniran, I., & Otokiti, K. V. (2019). Characterization of climate change manifestation in Nigeria coastal community. *Climate Change*, *5*(20), 235-244.

Aduloju, O. T., Adeniran, I. A., Adedoyin, J. Urban violence and crime: a review of literature. *The Just City: Poverty, Deprivation and Alleviation Strategies* 332 – 357.

Adeniran, I. A., Zhu, R., & Wong, M. S. Cross-Comparison between Sun-Synchronized and Geostationary Satellite-Derived Land Surface Temperature: A case study in Hong Kong. *Remote Sensing* 2022, 14(18),4444.

Adeniran, I. A., Nazeer, M., Wong, M. S., Zhu, R., Yang, J. (2023). Improved fusion model for generating hourly fine scale land surface temperature data under all-weather condition. *International Journal of Applied Earth Observation and Geoinformation*, *XX,* (Resubmited).

Adeniran, I. A., Nazeer, M., & Wong, M. S.. (202X). Advanced Federated Learning Neural Network (FL_NN) Framework for predicting Diurnal and Spatially continuous near surface air temperature from Optimized Land Surface Temperature Data: Case Study of Hong Kong. *Urban Climate*, *XX*, (under review).

Adeniran, I. A., Nazeer, M., Wong, M. S., & Sanan, U. (202X). Ensemble Model Framework for Global and City Scale Air Temperature Prediction Using Satellite-Derived Surface Temperature and Auxiliary Data. *Sustainable Cities and Society*, *XX*, (under review).

Conference Papers

(Abstract-Reviewed)

Adeniran, I., and Wong, M. S. Practical Guidelines for Optimal Land Surface Temperature Data Fusion: A Case Study in Wuhan City. Proceedings of *SPIE Sensors + Imaging 2023*, Amsterdam, Netherlands. Sept. 03-06, 2023.

Adeniran, I., and Wong, M. S. An Improved Machine Learning Model for predicting Diurnal and Spatially continuous Canopy layer temperature from Optimized Land Surface Temperature: Case Study of Hong Kong. Proceedings of *AGU Fall meeting*, San Francisco, CA. Dec. 11-15, 2023.

Personal Project in Progress

Predictive Modeling for Mangrove Conservation in West Africa

Deliverables

- A machine learning model capable of predicting mangrove loss in West Africa.
- Insights into the impact of environmental conditions on mangrove ecosystems through SQL data analysis.
- Interactive Tableau dashboards that effectively communicate findings.
- Recommendations for conservation efforts and policy changes to mitigate mangrove depletion.

Affiliation

- Individual Member, International Society for Photogrammetry and Remote Sensing	2023 - present
- Student Member, the International Society for Optics and Photonics	2023 - present
- Student member, American Geophysical Union	2023 – present
- Member, The Emirati Society of GIS and Remote Sensing (20210267)	2023 - 2024
- Associate Member, Nigerian Institute of Town Planners (MNITP/4922)	2018 - present
- Registered Member, Town Planners Registration Council (RTP/4747)	2019 - present

Awards

Sensors + Imaging Student Conference Support ***The International Society for Optics and Photonics***	Jul 2023
PhD Studentship Funding, Department of Land Surveying and Geoinformatics ***The Hong Kong Polytechnic University.***	Sept. 2020
Appreciation Award ***Toyin Ayinde and Associate***	Jan. 2018
The Best Graduating Student, Department of Urban and Regional Planning ***Federal University of Technology, Akure.***	March 2017
The First Student to Graduate with a First Class in the History of the Department ***Urban and Regional Planning, Federal University of Technology, Akure***.	March 2017
The most Improved Student in the School of Environmental Technology ***Federal University of Technology, Akure***.	Dec. 2015

Community Service

Founder: SmartStudy Consult   2023 - Present
A mentorship and Training institute for Undergraduate and Graduate Students

Director of Programs: City Visionnaire   2021 – Present
A non-governmental organization committed to empowering planning students and young professionals through career development, networking, and mentorship.

Welfare Director: Association of Nigerian Scholars in Hong Kong   2022 – 2023
A non-governmental Organization committed to the welfare of Nigerian scholars in Hong Kong

Member, Research Committee: Nigerian Institute of Town Planners   2018 – 2019
A professional organisation of registered town planners in Nigeria

References

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Relationship: PhD Supervisor

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Department of Geography and Planning
Queens University
Canada
Relationship: Exchange Program Supervisor