

OLADIMEJI MUDELE, PH.D.

509 Beacon Street, Boston, 02215, MA

(+1) 617 251 1500

omudele@hsph.harvard.edu

CURRENT APPOINTMENT

Harvard University, Boston, MA, USA

Sept. 2022 till date

Post-Doctoral Research Fellow

- Advised by [Dr. Christopher Golden](#) and [Dr. Francesca Dominici](#).
- Applying statistical methods and satellite imagery to data-intensive **planetary health** problems.

EDUCATION

University of Pavia, Italy

Oct. 2017 – Apr. 2021

Ph.D. in Electronics, Computer Science, and Electrical Engineering

Thesis: Modeling urban areas epidemiological risk exposure using multispectral space-borne data.

Fully funded by European Commission Horizon 2020 project - grant number 734541

University of Pavia, Italy

Dec. 2015 – Sept. 2017

M.Sc. in Electronic Engineering

GPA: **110/110** summa cum laude

Thesis: Automatic extraction of urban areas from satellite images in Nigeria.

Relevant courses: Satellite data processing, Radar remote sensing, Advanced mathematical methods.

Federal University of Technology Akure , Nigeria

2013

B.Eng. (Hons) in Electrical and Electronics Engineering

PAST ACADEMIC (VISITING) POSITIONS

Federal University of Alagoas, Brazil

Apr. – Aug. 2019

Visiting Doctoral Scholar

- Research focus: Explainable AI and satellite imagery for infectious diseases spread modeling.
- Funded by European Commission

Argentine National Commission for Space Activities, Argentina

Aug. – Oct. 2018

Visiting Doctoral Scholar

- Research focus: High-resolution urban exposure mapping from satellite images for public health.
- Funded by European Commission

GRANTS & SCHOLARSHIPS

Center for International Development, Harvard Kennedy School

2023

Role: co-Principal Investigator

- Funding requested: \$15,000
- Research goal: Developing climate-smart public health in Nepal.

Amazon Web Services Impact Computing Project through HDSI

Pending approval

Role: co-Principal Investigator

- Funding requested: \$175,000

- Research goal: Developing climate-smart public health in Nepal.

Amazon Web Services Impact Computing Project through HDSI

2023

Funding: co-Principal Investigator

- Funding received: \$481,085
- Research goal: Linking climate and environmental exposures to malnutrition in a food insecurity hotspot.

Harvard T.H. Chan School of Public Health Taplin Research Fund, 2022

2023

Role: co-Principal Investigator

- Funding received: \$15,000
- Research goal: Installing low-cost air quality sensors in Madagascar (a poop air quality hotspot).

Harvard University Post-Doctoral Fellowship Award

Sept 2022 - Aug. 2024

Role: Research Fellow

- Funding received: \$120,000

European Commission H2020 Ph.D. research scholarship

Oct. 2017 - Sept. 2020

- Funding received: Stipends, travels, and publications fees of over \$50000 covered.
- Research goal: Earth observation data for health risks mapping at urban and regional levels.

German Academic Exchange Service (DAAD) scholarship

Aug. 2019

- Funding received: \$500
- Awarded through Friedrich Schiller University, Jena, Germany.

Facebook Artificial Intelligence scholarship

Nov. 2019 - Mar. 2020

- Funding received: \$1200 (approx.)
- Udacity nanodegree in Computer Vision.

Merit and Productivity-based scholarship, University of Pavia, Italy

Oct. 2016 - Sept 2017

- Funding received: over \$6200

AWARDS AND HONORS

- Competitive selection into Harvard Catalyst's longitudinal mentoring program for high-potential early career scientists. (Sept. 2023 - Jun. 2024)
- Exceptional (global) talent residency status - granted by the UK government 2022 - 2027.
- Finalist (Pavia, Italy), FameLab science communication competition. Feb. 2019 [[Video](#)]
- Rotary club "Premio di laurea" award Feb. 2019.
Best international student at the University of Pavia, Italy.
- "Summa cum laude" top honors, M.Sc. degree in Electronic Engineering. Sept. 2017.
Completed the 4-semester program in 3 semesters
- Winning team member, Veryfile Blockchain Hackathon, Milan, Italy. Nov. 2018.

PAST INDUSTRY POSITIONS

Voiseed, Milan, Italy

Dec. 2020 – Aug. 2021

Research Data Scientist

- Hired as research engineer number 1 to work on generative AI for speech.
- Co-built technology that raised \$3.5million in investor funds.
- Built a generative AI inference engine for crafting and synthesizing hyper-realistic voices.

Workforce Group, Nigeria

Jul. – Oct. 2015

Digital Analyst

- Data analyses and reporting.

New Age Technologies

Nov. 2013 – Oct. 2014

Software Engineer

- Programmed in PHP, CSS, and MySQL in the development of a proprietary computer-based testing system for one of the largest polytechnics in Nigeria.

TEACHING EXPERIENCES

Harvard University, Boston, MA, USA

Fall 2022

Guest lecturer, Artificial Intelligence for Social Good

Bruno Kessler Foundation, Trento, Italy

Summer 2022

Instructor, short course on Causal Data Science for Environmental Policies

New Age Computer Institute, Nigeria

2013 - 2014

Instructor, Web Programming

JOURNAL AND CONFERENCE PUBLICATIONS

- Tec, Mauricio, **Oladimeji Mudele**, Kevin Josey, and Francesca Dominici. "Causal Shift-Response Functions with Neural Networks: The Health Benefits of Lowering Air Quality Standards in the US." arXiv preprint arXiv:2302.02560 (2023).[\[Paper\]](#)
- **Mudele, Oladimeji**, Alejandro C. Frery, Lucas FR Zanandrez, Alvaro E. Eiras, and Paolo Gamba. "Dengue vector population forecasting using multisource Earth observation products and recurrent neural networks." IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing 14 (2021): 4390-4404.[\[Paper\]](#)
- **Mudele, Oladimeji**, Alejandro C. Frery, Lucas FR Zanandrez, Alvaro E. Eiras, and Paolo Gamba. "Modeling dengue vector population with Earth observation data and a generalized linear model." Acta Tropica 215 (2021): 105809.[\[Paper\]](#)
- **Mudele, Oladimeji**, Verónica Andreo, Ximena Porcasi, Carlos M. Scavuzzo, Laura Lopez, and Paolo Gamba. "Predicting Aedes Aegypti Eggs Count Using Remote Sensing Data and a Generalized Linear Model." In 2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS, pp. 84-87. IEEE, 2021.[\[Paper\]](#)
- **Mudele, Oladimeji**, Fábio M. Bayer, Lucas FR Zanandrez, Alvaro E. Eiras, and Paolo Gamba. "Modeling the Temporal Population Distribution of *Ae. aegypti* Mosquito Using Big Earth Observation Data." IEEE Access 8 (2020): 14182-14194.[\[Paper\]](#)
- **Mudele, Oladimeji**, and Paolo Gamba. "Mapping vegetation in urban areas using Sentinel-2." In 2019 Joint Urban Remote Sensing Event (JURSE), pp. 1-4. IEEE, 2019.[\[Paper\]](#)

- **Mudele, Oladimeji**, Chiemeka Nsofor, and Fabio Dell’Acqua. ”Investigation into Academic Remote Sensing Education Across the Globe: The Case of Nigeria [Education].” IEEE Geoscience and Remote Sensing Magazine 6, no. 4 (2018): 98-104.[[Paper](#)]
- Afonja, Tejumade, **Oladimeji Mudele**, Irero Orife, Kenechi Dukor, Lawrence Francis, Duru Goodness, Oluwafemi Azeez, Ademola Malomo, and Clinton Mbataku. ”Learning Nigerian accent embeddings from speech: preliminary results based on SautiDB-Naija corpus.” arXiv preprint arXiv:2112.06199 (2021).[[Paper](#)]

DISSERTATIONS

Ph.D. dissertation

- Modeling urban areas epidemiological risk exposure using multispectral space-borne data [[Link to document](#)].

M.Sc. dissertation

- Automatic extraction of urban areas from satellite images using machine learning. [[Link to document](#)].

OPEN-SOURCE SOFTWARE

pylandtemp: a Python library for computing global land surface temperature and emissivity from NASA’s Landsat satellite images.

- GitHub: <https://github.com/pylandtemp/pylandtemp>
- My role: Sole developer and maintainer.

PRESENTATIONS AND TALKS

1. Invited Talk titled: Good code, reproducibility, and GitHub. Presented to The Golden Lab at Harvard University. (Sept. 2023) [[Slides](#)]
2. Poster Presentation, American Causal Inference Conference, Austin, Texas, United States. (May 2023)
3. Poster Presentation, Scientific Computing with Python. (July 11 - 17, 2022) (Online)
4. Invited Seminar, National Studies on Air Pollution and Health, Harvard University. (Mar. 2022) (Online)
5. Invited Talk, Heidelberg Institute for Geoinformation Technology, University of Heidelberg, Germany. (Feb. 2022) (Online).
6. Invited Talk, Technical University of Munich, Germany. (Feb. 2022) (Online)
7. Invited Talk, Netherlands eScience Center. (Dec. 2021) (Online)
8. Workshop poster and paper presentation, 2021 Conference on Neural Information Processing Systems (NeurIPS). (Dec. 6-14, 2021).
9. Invited Talk, Global Artificial Intelligence team, GlaxoSmithKline. (Jul 21. 2021) (Online)
10. Conference Presentation, IEEE International Geoscience and Remote Sensing Symposium (IGARSS). (July 12-16, 2021) (Online)
11. Invited Talk, Department of Geo-information Processing, University of Twente, Netherlands. (Jul 9. 2021) (Online)

12. Invited talk, China University of Petroleum (East China). (May 31, 2021) (Online)
13. Poster Presentation, International Summer School on Geospatial Data Science with R, Friedrich Schiller University Jena, Germany. (Aug. 25 – Sep. 1, 2019).
14. Invited Talk, Google Developer Group, Trento, Italy. (Nov. 9, 2019)
15. Seminar presentation, Institute of Computing, Federal University of Alagoas, Brazil. (April 2019)
16. Seminar presentation, Mario Gulich Institute for Advanced Space Studies, Córdoba, Argentina. (August 2018)

OTHER CONTRIBUTIONS/SERVICES TO SCIENTIFIC COMMUNITY

Journal Peer Reviewer

- Remote Sensing Applications: Society and Environment Journal (Elsevier).
- Journal of Open Source Software
- IEEE Transactions on Geoscience and Remote Sensing
- IEEE Geoscience and Remote Sensing Magazine
- MDPI: Remote Sensing

Grant Reviewer

- Wellcome Trust Foundation Grant

Organizer and Moderator

- Moderator, National Studies on Air Pollution and Health Group Meeting, Harvard University (2023)
- Co-organizer, TEDx Pavia, Italy (2018)

Committee membership

- Hiring committee member for three research assistant positions at Harvard University (Summer 2023)

STUDENT RESEARCH ADVISING AND MENTORING

1. Ph.D. Candidate(s)

Tejas Athni

Summer 2022

MD-PhD Candidate, Harvard Medical School

Graduated Phi Beta Kappa from Stanford University in 2022

2. Undergraduate students

Jayden Personnat

Summer 2023

Computer Science, Harvard University

Teaching Fellow at Harvard

Jacob Fernandes

Summer 2023

Computer Science and Linguistics, Harvard University

Graduated Phi Beta Kappa from Stanford University in 2022

Haley Lifrieri

Summer 2023

Computer Science, Harvard University

USA Computing Olympiad silver medalist

LEADERSHIP ROLES

Global Health AI

2023

Role: Co-founder

- A fully automated real-time global health monitoring system based on Natural Language Processing (NLP) and satellite image technology.
- Eastern region finalist, Alumni New Venture Challenge, Polsky Center at the University of Chicago. (2023)

Provincial Center for Adult Education, Pavia, Italy

2017 - 2018

Role: Council President

- First ever black and non-Italian to become the council president of a public educational institution in the history of Italy.

Millennium Development Goals advocacy group, Ibadan, Nigeria

2014

Role: Vice-president

- Led computer skills training for the physically challenged and health campaigns in local villages.

SKILLS

Human Languages: English, Italian, Yoruba, West-African Pidgin

Programming Languages: Python, Javascript

Scientific Computing: R, Matlab, , TensorFlow, PyTorch, Scikit-learn

Geographic Information Systems: QGIS, ArcGIS, ENVI, Google Earth Engine

Documentation: LaTeX, Jupyter Notebook, R Markdown