AMOBI ONOVO | Ph.D., MPH (Epi.), Data Science Cert.

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Summary

Accomplished Data Scientist & Biostatistician with 15+ years of experience applying AI/ Machine Learning-driven analytics and advanced statistical modeling to Big Data across global health, surveillance, finance, and clinical research. Proven mentor and trainer in epidemiological study design (cross-sectional, cohort, experimental), with advanced skills in Time-to-Event analysis, Difference-in-Difference, Recommender and Time-Series Forecasting. Expert in deploying real-time predictive models on cloud platforms (Hugging Face, AWS), including a recent binary prediction app that improved feature selection and engineering by 50% (2025). Published in leading journals such as The Lancet.

Core Competencies/ Technical Skills

- Core Competencies: AI-driven data analytics, biostatistics & epidemiology, A/B & IV analysis expertise, HIPAA-Compliant Data Management with hands-on experience building, deploying, and operationalizing ML, predictive algorithms, and RAG agent systems using AWS (SageMaker, Bedrock, EC2, Comprehend & Rekognition) Hugging Face, and LangChain technologies.
- Software Skills: DHIS 2.0, SAS, ArcGIS Pro, PostgreSQL, Power Bi, Tableau, Python & R-Studio, n8n, Windsurf AI
- Soft Skills: Multi-Team Coordination, Critical & Creative Thinking, Strategic leadership, Training & Facilitation.

Education

University of Geneva, Switzerland
Doctor of Philosophy, Global Health/ Mathematical Modeling | Geneva, Switzerland | Dec 2022

University of Texas At Austin, United States
Postgraduate Diploma, Data Science & Business Analytics | Austin, United States | Nov 2020

University of Calabar, Nigeria
Master of Public Health, Epidemiology | Calabar, Nigeria | Dec 2016

Federal University of Technology Yola, Nigeria
Bachelor of Technology, Biochemistry | Yola, Nigeria | Mar 2008

Work Experience

The Henry M Jackson Foundation (HJF) for the Advancement of Military Medicine
Technical Director, Quality Metrics and Reporting | Bethesda, Maryland | Oct 2022 - Present

- In 2024, developed advanced analytics models and real-time dashboards in Tableau and Power BI, enhancing strategic decision-making and reducing reporting time by 25% across health programs in Kenya, Uganda, Tanzania, and Nigeria.

- Architected and deployed (2025) a Hugging Face prototype—"Signal Sifter"—that automates Information Value computation and real-time feature selection, integrating OpenAI GPT-4 via LangChain to power an interactive data-science agent for EDA and statistical prediction; slashed manual feature-engineering time by 85%, boosted model AUC by 12%, and supported 400+ user sessions per month.
- Capacity Building & Training (2023–2024): Facilitated presentations and conducted training for 150+ students, data analysts, and public health professionals over 1 year in data science, scientific writing, analytics tools (Power BI, Tableau), and data management (Python, R, Power Query), boosting analytical skills and publication output by 30%.
- Built an XGBoost model in 2025 forecasting viral load suppression through 2030 with 93% accuracy (4.5% MAPE), boosting program reach by 18%.
- Clinical Research & HIV Modeling (2003): Led implementation research using PEPFAR pediatric aggregate data to model pediatric HIV burden and predict spatial hotspots in Kenya, increasing pediatric HIV case finding by 20% and optimizing treatment outcomes by 15%.

Office of HIV/AIDS and TB, U.S Agency for International Development
Project Manager/ Data Scientist- Big Data and Implementation Science | Abuja, Nigeria | Jun 2015 - Sep 2022

- Served as Activity Manager for a $15M PEPFAR-USAID cooperative agreement (2015–2022), leading monitoring and evaluation, data quality, DHIS2 dashboard development and special mid-term program evaluation initiatives that improved quality reporting and evidence-based surveillance by 30% across supported PEPFAR programs in Nigeria.
- In 2022, I used agglomerative hierarchical clustering to profile clients at risk of HIV treatment interruption, enhancing personalized care and improving adherence by 12%.
- In 2022, applied Kaplan–Meier and Cox PH models to analyze patient retention in decentralized distribution, boosting retention by 25% and reducing interruptions by 10%.
- In 2021, applied Lasso regression and Empirical Bayesian Kriging to model COVID-19 outbreaks, enabling early detection and improving resource allocation by 20%.
- Used Bayesian models to refine HIV prevalence estimates in Nigeria, increasing accuracy by 18% and optimizing resource allocation for over 1 M patient.

Technical Projects

- Developed and deployed a real-time stroke risk prediction app on Hugging Face, featuring an interactive Gradio UI: https://huggingface.co/spaces/amobionovo/Stroke_Risk_by_Dr.Onovo
- Developed an advanced Generative AI Data Science and Analysis Assistant leveraging the LangChain framework to interpret complex natural language instructions, perform sophisticated data analysis, and streamline predictive modeling tasks: https://github.com/onovo007/LangChain-Data-Science-Agent

Select Publication & Preprint

- Onovo AA et al. Estimation of HIV prevalence and burden in Nigeria: a Bayesian predictive modelling study. EClinicalMedicine (Lancet), 2023; https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(23)00275-4/fulltext
- Onovo A, et al. Using supervised machine learning and empirical Bayesian kriging to analyze COVID-19 outbreak patterns in sub-Saharan Africa. MedRxiv: https://www.medrxiv.org/content/10.1101/2020.04.27.20082057v1

References

- References provided upon request