# HAMMED ABDULSALAM

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#### **RESEARCH INTEREST**

Artificial Intelligence in Health Statistical Inference Machine Learning Deep Learning

## **EDUCATION**

**MSc** Ahmadu Bello University, Zaria, Statistics

February 2018

Second class upper division

Thesis: Transmuted New Weibull Pareto Distribution

Advisor: Professor Isah Audu

**BSc** University of, Nigeria, Nsukka, Statistics

January 2013

Second class lower division

Thesis: Time Series Analysis of Nigeria Crude Oil Price (Bonny Light)

2006-2011 Using Box-Jenkins Approach Advisor: Professor Fidelis Ugwuowo

#### RESEARCH EXPERIENCE

#### **Graduate student**

Ahmadu Bello University, Zaria, Nigeria Transmuted New Weibull Pareto Distribution 2016-2018

Supervisor: Professor Isah Audu

- Proposed and developed a novel statistical distribution, the Transmuted New Weibull Pareto Distribution, to improve flexibility and efficiency in modeling real-life datasets.
- Derived the new distribution using the Quadratic Rank Transmutation Map (QTRM) method.
- Analyzed the reliability behavior by studying the survival and hazard functions, and derived structural properties of the distribution.

- Implemented parameter estimation techniques, including Maximum Likelihood Estimation (MLE) and Least Square Estimation (LSE), to compare the efficiency of these methods.
- Conducted comparative analysis of the proposed distribution with the New Weibull Pareto and Pareto distributions using real-life datasets.
- Authored a detailed evaluation of the statistical tests associated with the new distribution, highlighting its significance in applied areas.

# **Undergraduate Student**

University of Nigeria, Nsukka, Enugu State 2008-2012 Time Series Analysis of Nigerian Crude Oil Price (Bonny Light) 2006-2011 Using Box-Jenkin Approach

Advisor Name: Professor Fidelis Ugwuowo

- Applied the Box-Jenkins ARIMA modeling technique to develop a robust model for Nigerian crude oil price data.
- Used Auto-correlation Function (ACF) and Partial Auto-correlation Function (PACF) to identify the best-fit model for the time series data.
- Conducted diagnostic checks to assess the model's adequacy and ensured parsimony in model selection.
- Forecasted crude oil prices for the year 2012 based on the identified ARIMA model.
- Provided actionable insights into the trends and future projections of crude oil prices using statistical techniques.

#### HONOURS AND AWARDS

Wema Bank Hackaholic (Team Lendse) Second runner-up, Nigeria	2019
Staff Excellence Award Factual Analytics, Lagos	2022

## **TEACHING EXPERIENCE**

# Factual Analytics, Nigeria Data Science Trainer

July 2018-Present

- Designed and delivered tailored training sessions for professionals on advanced statistical analysis and machine learning models.
- Conducted workshops and hands-on sessions using Python, R, SAS, Tableau, and Power BI, focusing on practical applications in business and analytics.
- Developed training materials and case studies to simulate real-world data challenges for learners

- Mentored trainees in the deployment of machine learning models and the creation of dashboards for actionable insights.
- Facilitated learning for diverse groups, including data analysts, statisticians, and business professionals, to upskill their technical and analytical expertise.

# Semicolon Africa, Nigeria Data Science Instructor

Nov 2019- Aug 2021

- Designed and delivered comprehensive data science courses covering Python, R, statistical modeling, machine learning, and data visualization.
- Mentored over 100 students, guiding them through project-based learning to solve real-world data problems.
- Developed and implemented a curriculum that emphasized practical applications of data science tools like R, Python, SAS, Tableau, Power BI.
- Facilitated workshops on advanced machine learning algorithms and model deployment strategies.
- Provided personalized feedback to students, helping them refine their analytical and programming skills.

#### **PUBLICATIONS**

# Manuscripts in Preparation

Abdulsalam, H. Enhancing Knee Osteoarthritis Classification Accuracy: Leveraging Transfer Learning and Machine Learning Models for Advanced CAD Systems. Advances in Artificial Intelligence and Machine Learning. (In Preparation)

# Conference Papers

Abdulsalam, H. Transmutation of Weibull Pareto Distribution. (Paper submitted at the 1st International Conference of the Nigerian Statistical Society, 2017).

Abdulsalam, H. Exponentiated Generalized New Weighted Exponential Distribution. (Paper submitted at the 1st International Conference of the Professional Statisticians Society of Nigeria, 2017).

#### Presentations and Invited Lectures

## **Invited Lectures/Talks**

Abdulsalam, H. *Machine Learning with Tidymodels.* (Presentation for the Abuja R-User Group, Abuja, Nigeria, October 2021).

 Delivered a brief introduction to machine learning models and the Tidymodels package. Abdulsalam, H. Introduction to Machine Learning. (Presentation for the University of Ibadan R-User Group, Ibadan, Nigeria, January 2020).

 Presented an introduction to machine learning algorithms and their applications in human resources.

#### **ARTICLES WRITTEN**

#### **Articles**

Abdulsalam, H. Investigating the Dynamics between Price-to-Rent Ratio and Market Fundamentals: A Vector Error Correction Model (VECM) Analysis in R. Published on https://www.iamhamid.com/ (July 21, 2023).

Abdulsalam, H. Machine Learning-Driven Insights into Predicting Multiple Sclerosis: Exploring Key Determinants of CDMS Classification. Published on https://www.iamhamid.com/ (December 27, 2024).

Abdulsalam, H. Object Detection and Blurring Using YOLOv5. Published on https://youtu.be/FWJSMiu4Dig (July 16, 2023).

Abdulsalam, H. Unraveling Kickstarter Success: A Machine Learning Approach Using Random Forest and Logistic Regression. Published on https://www.iamhamid.com/(July 21, 2023).

Abdulsalam, H. Movie Licensing with Predictive Analytics. Published on https://www.iamhamid.com/ (December 10, 2024).

#### PROFESSIONAL DEVELOPMENT TRAINING

#### Webinars

Elsinghorst, S. Deep Learning with Keras and TensorFlow. (Webinar for useR!, 2020).

Gerke, T. Causal Inference in R. (Webinar, 2024).

Kadauke, S., Rudolf, J., & Mathias, P. R for Clinical Data. (Webinar, 2022).

Cetinkaya-Rundel, M. Quarto for Reproducible Medical Manuscripts. (Webinar, 2024).

## **PROFESSIONAL AFFILIATIONS**

Member, Nigerian Statistical Association (NSA)

Member, Professional Statistician Society of Nigeria (PSSN)

2013-Present
2018-Present

## **COMMUNITY SERVICE**

**Secretary, Liberty Estate Community Development Association** 2021-2024 Responsible for managing correspondence, organizing meetings, recording minutes, and maintaining official documents to support the association's initiatives and community development activities

# National Blood Service Agency, Nigeria

2019-Present

Blood donor

#### **LANGUAGES**

**English**: Native Language **French**: Beginner Level

## **TECHNICAL SKILLS**

Analytics: R, Python, SAS, Excel, SPSS, STATA

Visualization: Tableau, PowerBI

Cloud: AWS, Google Cloud, Microsoft Azure Databases: MongoDB, PostgreSQL, MySQL

Dev Tools: Visual Studio Code, Git, Gitlab, Rstudio, Jupyter Notebook

### REFERENCES

#### Dr Aminu Mohammed,

Department of Statistics Ahmadu Bello University Zaria, Nigeria +234-8069329031 mohammedas@abu.edu.ng

### Saheed Lawal,

Factual Analytics Lagos, Nigeria saheed@factual.ng +2348166889473

# Joseph Kayode,

Factual Analytics Lagos, Nigeria joseph@factual.ng +2348184004444