CONTACT INFORMATION	Al-Hikma Polytechnic, Karu, Mararaba, Nasarawa State Nigeria

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RESEARCH INTERESTS

My research goal is to solve real problems on big data. My research area is in the interdisciplinary fields of Multimedia, Signal and Image Processing, Machine Learning, Computer Vision, Deep Learning, Artificial Intelligence, Mobile & Satellite Communications, Big Data, Face Recognition

EDUCATION

M.Eng. in Electrical and Electronics Engineering   Feb. 2009 – Sept. 2012

Nigerian Defence Academy, Kaduna, Nigeria

Thesis Topic: Empirical Prediction of the Effect of Rain Drops On Direct

Broadcast Satellite System Operating in Ku-Band (14/12 GHz)

Courses: Digital Signal Processing, Radar System, Antenna and Propagation,

Stochastic Processes, Digital Communications, Adaptive Filtering and

Applications and Electronics, Numerical Analysis, CAD Using MatLab

B.Eng. in Electrical Engineering   Sept. 1993 – May 2000

University of Ilorin, Ilorin, Kwara State, Nigeria

Thesis Topic: Design and Construction of a stabilized Power Supply System

Major: Telecommunications system and computer

PROFESSIONAL EXPERIENCE (10 + YEARS)

Head, Electrical/Electronic Engineering   Jul. 2016 – Present

AL-Hikma Polytechnic, Karu, Mararaba Nasarawa State

Responsibilities:

Data Engineering: Teaching and Researching

- o Create data repositories for machine learning
- o Identify and implement a data-ingestion solution
- o Identify and implement a data-transformation solution
- o Implementation of database requirements

- Analyze performance, and troubleshoot any existent issues.
- Develop, construct, test and maintain architectures
- Align architecture with business requirements
- Identify ways to improve data reliability, efficiency and quality
- Conduct research for industry and business questions
- Use large data sets to address business issues
- Deploy sophisticated analytics programs, machine learning and statistical methods
- Prepare data for predictive and prescriptive modeling
- Find hidden patterns using data
- Use data to discover tasks that can be automated
- Deliver updates to stakeholders based on analytics

Exploratory Data Analysis: Teaching and Researching

- Sanitize and prepare data for modeling
- Perform feature engineering
- Analyze and visualize data for machine learning
- formulate hypotheses that could lead to new data collection and experiments
- Glyph-based visualization methods such as PhenoPlot and Chernoff faces
- Projection methods such as grand tour, guided tour and manual tour
- Interactive versions of these plots

Modeling: Teaching and Researching

- Frame business problems as machine learning problems
- Select the appropriate model(s) for a given machine learning
- problem
- Train machine learning models
- Perform hyperparameter optimization
- Evaluate machine learning models
- Prediction Engineering
- Feature Engineering
- Eventual ML Modeling

Machine Learning Implementation and Operations: Teaching and Researching

- Build machine learning solutions for performance, availability,
- scalability, resiliency, and fault tolerance.
- Recommend and implement the appropriate machine learning
- services and features for a given problem.
- Apply basic AWS security practices to machine learning solutions
- Deploy and operationalize machine learning solutions.
- Machine Learning Natural Language processing using tokenization, vectorization, lemmatization and stemming.

- o Effective in the use of Training Trees and Hyperparameters, Geometric Interpretation and Time Complexity, and Transformers.
- o Using python and its libraries (numPy, pandas, spaCy and SciKit) to simplify big data and represent solution using visualization.

Computer Programming

- o Developing computer applications using Java, python, C++, PHP, SQL, JavaScript and its frameworks.

Communication Systems Engineering

- o Teaching RADAR system and Location Based Services.
- o Supervising students' projects centring on satellite communications system and artificial intelligence.
- o Information and Coding Theory
- o Communication Networks
- o Digital Signal Processing
- o Advanced Electromagnetic Theory
- o Embedded Systems

Scientific Researcher   June, 2014 – July, 2016

Galaxy Backbone Limited, Abuja, Nigeria

Responsibilities:

- o Involved in the process of developing a model to ameliorate effect of weak or total loss of satellite signal due rain, sandstorm and harmattan effect in ku-band.
- o Collated results are big and analysed using Python for simulation.

Network Research & Development Officer   May, 2013 – June, 2014

Nigerian Communication Satellite Limited, Abuja, Nigeria

Responsibilities:

- o Data collection for predicting the availability and non-availability of network using supervised Machine learning.

- o Supervised and delivered project work and administered modification of systems for better output.

- o Used Python and its packages to analyse network issues.

- o Designed and executed annual strategies to detect measurable aims for department.

- o Coordinated with team members and guided them about RI related issues for each server.

o Designed, implemented and monitored IT enabled business projects for all network operations.

o Assisted to summarize and coordinated with various departments on all maintenance activities of plan server.

o Developed, monitored and implemented all security systems.

o Designed and maintained effective working long term network operations strategies.

o Managed all communication with customers, prepared reports and resolved technical problems.

o Participated in conferences with other experts to enhance finalization of projects and provide upgrade to various networking programs.

o Maintained and managed tests for IT based disaster recovery programs.

AWARDS AND ACHIEVEMENTS	Faculty's Best Supervised Project	2012
	Employee of the Year in research and development	2019
	1st Position in Engineering and Computer Science Departments	2019

TECHNICAL SKILLS

Computer Programming

C/C++, Matlab, Python 3.5 (scikit-image/learn, OpenCV, DLib, TensorFlow, TensorBoard, numPy, pandas), R, Java, HTML, JavaScript, PHP, SQL

Operating Systems, IDEs and Applications, Networking

Windows, Linux, Anaconda, Spyder, Jupyter Notebook, Proteus, Multisim 12.0, MS Visual Studio, MS Office, CorelDraw, AutoCAD, IP Addressing, OSI/TCP Model, Routing, Switching, Subnetting, Supernetting, Routing Protocols, Network Programming, Socket Programming.

MANAGEMENT, WORKSHOPS, CONFERENCES AND TRAININGS

Attended International Conference on importance of Artificial Intelligence in Mobile Telecommunications Network in Lagos, Nigeria by IEEE — 2019

Attended conference where paper titled "Artificial Intelligence, Big Data and Mobile Technology: Changing the future of the Energy Industry" organized by Society of Petroleum Engineers. — 2019

Attended Big Data and Business Analytics conference where paper titled "Unleashing the Power of Data Analytics to drive business results" organized by Information and Data Analytics Foundation. — 2019

Attended a seminar on the role of computing in the evolution and development of emergent and alternative technologies. 2019

Attended Nigeria Society of Engineers workshop on effective broadband coverage of Nigeria. 2019

Participated in Deep Learning 90-day Pre-Study, Kaggle selection quiz and bootcamp/ Hackathon on Artificial Intelligence Applications in Financial Inclusion 2018

Presented a paper titled "Artificial Intelligence for Financial Inclusion: New Algorithm for the financially excluded / thin-file segment" 2018

Participated in Council for the Regulations of Engineering's conference about development of Artificial Intelligence in Nigeria 2018

Attended a seminar on Innovative Community and Accelerator For Machine Intelligence and Data Science, Research and Applications to help transform Africa. 2017

Training: ZTE (Commission, Operation & Maintenance of CDMA Network) 2013

Attended Workshop on Robotic Designing 2012

Training: Using Matlab and Python effectively for Data Science 2012

CERTIFICATIONS

FrontEnd Fundamentals (HTML, CSS) 2020
(pirple.com/Ajao_Wasiu)

Scientific Computing and Python for Data Science 2019
(WorldQuant University, Louisiana, USA)

JavaScript Algorithms and Data Structures 2019
(freeCodeCamp.org/bambillo1)

Responsive Web Design 2020
(freeCodeCamp.org/bambillo1)

Front End Libraries 2020
(freeCodeCamp.org/bambillo1)

Machine Learning and Statistical Analysis   2020
(WorldQuant University, Louisiana, USA)

PROFESSIONAL MEMBERSHIP

- Registered Corporate Member of the Council
  for the Regulations of Engineering **R31035**
  in Nigeria
- Registered Member of Nigerian Society of Engineers
  R31095
- Member, Nigerian IEEE
- Registered NEMSA Engineer

PERSONAL SKILLS

Languages: English (Expert), Yoruba (Expert), Arabic (Beginner).
Strong technical writing, formal reporting, communication, and
presentation skills.
Quick learner, dedicated, highly motivated, enthusiastic, and team player

PENDING PROJECTS

S.M Sani, Ajao W.B, "Empirical Prediction of the Effect of Rain Drops On Direct

Broadcast Satellite System Operating in Ku-Band (14/12 GHz) using Python

programming as tool. " [Pending]

Ajao W.B, Sakariyau W.B, "Development of a model using big data for

face recognition of identical twins." [Pending]