

BABAJIDE ADEROUNMU DAVID

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RESEARCH INTERESTS

Machine Learning	Health Informatics	Data Visualization
Deep Learning	Crisis Informatics	Natural Language Processing (NLP)

AREAS OF ACCADEMIC PROFICIENCIES

Computer Programming	Statistics	Matrices
Data Structures	Calculus	Mathematical Modeling

GRE TEST SCORE

Quantitative Reasoning	170
Verbal Reasoning	162
Analytical Writing	4.0
Total Score	332

EDUCATION

National Open University of Nigeria Lagos State, Nigeria MSc. Information Technology (GPA 3.49/5.0)	2022
Ladoke Akintola University of Technology, Ogbomosho, Oyo State, Nigeria BSc. Computer Engineering (GPA 3.38/5.0)	2008

RESEARCH EXPERIENCE

Deep Learning in Biomedical Imaging: Brain Tumor segmentation <i>Advanced Approaches in 3D MRI Brain Tumor Segmentation: Current Advances in Deep Learning and Statistical Techniques for Biomedical Imaging</i> (Research Gate) Summary: Clinical diagnosis and treatment of cancer rely on combining patient-specific data with clinical judgment to address the complexity of the disease. Biomedical imaging, particularly in brain tumor segmentation using MRI, plays a crucial role in enhancing disease evaluation and treatment planning. The study highlights the importance of integrating statistical and deep learning models to create powerful automated systems for clinical oncology, emphasizing their effectiveness in brain imaging research.	2023
Machine Learning in Healthcare Informatics: Cardiovascular Disease Detection <i>Performance Evaluation of Machine Learning Techniques and Algorithms Used in Detection of Cardiovascular Diseases (CVD) in patients</i> (Research Gate) Supervisor: Dr. Emmanuel Okewu, Department of Computer Science, University of Lagos Summary: The aim of this research work is to help in early detection of cardiovascular diseases in patients which in effect could prevent the long-term effect of late detection. Also, we sought to attain a high level of accuracy for the detection of CVD in patients by applying Six (6) different ML algorithms (Logistic	2022

Regression, Support Vector Mechanism, K-Neighbor Classifier, Decision tree classifier, Random Forest classifier and the Gradient Boosting classifier). At the end of the research, we built an ML model that could effectively predict the risk of heart disease when tested in several patients. Furthermore, we made a comparative analysis of each predictive model. Subsequently, the most accurate algorithm was selected for an accurate result.

Machine Learning in Healthcare Informatics: Diabetes Detection

2023

Detection of Early Stage-1 Diabetes in Patients Using Machine Learning Techniques and Algorithms ([GitHub](#))

Summary: This research paper presents a comprehensive study on the application of ML algorithms for the detection of diabetes in patients. We explore various data sources, feature selection methods, and classification algorithms to build robust predictive models. The performance of these models is evaluated using real-world healthcare datasets, demonstrating the potential for ML-based diabetes detection in clinical practice. We obtained a performance improvement of 0.03% and 0.06% using CNN and CNN-LSTM architecture respectively compared to our earlier work without using SVM. The classification system proposed can help the clinicians to diagnose diabetes using ECG signals with a very high accuracy of 95.7%.

Machine Learning in Flood Disaster Management ([Research Gate](#))

2023

Flood Risks Prediction and Management Using Machine Learning Techniques and Algorithms

Summary: This research endeavor aims to construct a predictive model following the Cross-Industry Standard Process for Data Mining (CRISP-DM) methodology. It utilizes Bayesian network (BN) and various Machine Learning (ML) techniques, including Decision Tree (DT), k-Nearest Neighbors (kNN), and Support Vector Machine (SVM), to forecast flood risks in the Niger Delta region of southern Nigeria. The results indicated that the Decision Tree model, when employed with the Synthetic Minority Over-sampling Technique (SMOTE), outperformed the others, achieving an accuracy rate of 99.92%.

Natural Language Processing (NLP) Modeling

2023

Topic Modeling of Scholars Perspective on ChatGPT using NLP

Summary: This research focuses on employing Natural Language Processing (NLP) techniques to conduct topic modeling analysis of scholars' perspectives on ChatGPT. By analyzing academic writings and publications, this study aims to uncover the key themes and trends within the scholarly discourse surrounding ChatGPT. The results of this research will provide valuable insights into the evolving landscape of NLP research and the role of ChatGPT in the field.

Research Project during Bachelor's degree

2008

Performance Evaluation of Load Traffic on GSM Networks

Supervisor: Professor John Oladosu, Department of Computer Engineering, Ladoke Akintola University

Summary: With the increasing demand for mobile communication services, the performance of Global System for Mobile Communications (GSM) networks under heavy traffic loads has become a critical concern. This thesis presents a comprehensive analysis and evaluation of GSM network performance when subjected to various levels of traffic load. The findings of this study provide valuable insights for network operators, regulators, and GSM technology stakeholders. By understanding how GSM networks perform under different traffic loads, stakeholders can make informed decisions to improve network efficiency, ensure better service quality, and plan for network expansions to accommodate growing user demands.

PROFESSIONAL EXPERIENCE

National Emergency Management Agency (NEMA), Abuja, Nigeria

2023 – present

Geospatial Data Analyst

- Building predictive models using machine learning tools and algorithms.
- Conduct data visualization to provide insights using visualization tools like Microsoft Power BI and Tableau.
- Analyze large data set for: spatial analysis, Geocoding and GIS data capture.
- Collate and analyze geospatial data to provide insights for making informed decisions in terms of emergency response.
- Conduct research and analysis on natural Geospatial phenomenon such as flooding and landslides.

Ongoing Project

Working on a project with the Lagos State Emergency Management Agency (LASEMA) on how to optimize emergency response in identified flood disaster zones using Geospatial data analysis and other Artificial Intelligence (AI) technologies.

Leumax Technologies Limited, Lagos, Nigeria

2018 – 2023

Full Stack Software Developer

- Design the front-end and backend of mobile and web software applications.
- Build the architectural framework of website client and server side.
- Design effective application programming interface (API), as an interface for the front end and back end of software applications.
- Involved in the various stages of software development for the clients (software planning, analysis, coding, testing, implementation, and maintenance)

TEACHING EXPERIENCE

GESTALT Information Technology Limited, Lagos, Nigeria

2013 – 2017

Director of IT Education/ Training

- Instructed students on website development using Java Script, React JS, PHP, and MYSQL.
- Facilitated in training candidates for several IT professional exams such as Google Data Analytics, MCSN, CISCO, and COMPTIA Network+ Certification.
- Was part of the Microsoft Tek4 Africa initiative program that trained over 20,000 students in Lagos, on Data Analytics and other AI technologies.
- Plan and administer a curriculum that prepares students for careers in Information Technology, including personal computer hardware and software, operating systems, networking, and programming.
- Design, develop, implement, and maintain courseware for classroom and distance learning.

DEBIS Computers Limited, Ikeja, Lagos, Nigeria

2010 – 2013

Network Engineer/ Instructor

- Initiate, facilitate, and moderate classroom discussions. Maintain student attendance records, grades, and other required records.
- Responsible for the design, configuration, installation, and troubleshooting of network infrastructure of the company and its clients.
- Responsible for the Installation, and configuration of network equipment such as routers, proxy servers, switches, WAN accelerators, DNS and DHCP.
- Responsible for conducting training for other junior staff and software users.
- Designed and implemented network solutions to improve network efficiency in 25 partner governmental ministries in Nigeria.

TECHNICAL EXPERTISE

Machine Learning	TensorFlow, Pytorch, Keras, Scikit-Learn, Streamlit.
Data Science	Pandas, Matplotlib, NumPy, Pandas, Matplotlib, Seaborn
Data Visualization	Tableau, PowerBI, MS - Excell
Software Development	Java, Python, React JS
Databases	PHP/MySQL, Django

VOLUNTEER & COMMUNITY SERVICE

TechOven AI Innovation Center, Lagos 2016 - 2019

Data Visualization Specialist

- Responsible for creating and editing visual content including maps, charts, and graphs. Transforming data sets, quantitative and qualitative analysis into compelling visuals.
- Providing visual, technical, and editorial guidance.

Technology Incubation Centre 2019 - 2021

Community Lead

- Responsible for organizing technical and soft skills training for over 8,000 students to foster digital skills and innovation for the less privileged.
- Facilitated trainings for over 1,000 serving National youth corps members in Northern Nigeria particularly in the field of machine learning, data science, and data analytics.

CONFERENCES AND WORKSHOPS

Nigeria Computer Society International Conference, Lagos 2023

Artificial Intelligence Summit

NCS-Pantami Hackathon for Digital Economy 2022

Nigerian Big Data Analytics and Innovation Conference, Abuja

Engaging Big Data Analytics to build Capacity in the Nigerian Education Sector 2022

International Artificial Intelligence Workshop on Recommender Systems Online

2022

How to use machine learning and deep learning to develop an end-to-end recommender system, as well as the deployment of AI innovation and Business Development

Nigeria Internet Registration Association (NIRA), Lagos

Domain Name System Administration and Management Workshop

2017

PROFESSIONAL AFFILIATIONS

- Member, Nigerian Society of Engineers (NSE) 2010
- Member, Nigeria Computer Society (NCS) 2011
- Member, Computer Professionals of Nigeria (CPN) 2013
- Member, Professional Management Institute (PMI) 2014
- Project Management Professional, British School of Project Management (BSPM), UK 2014
- Member, Nigerian Institute of Management (MNIM) 2010
- Certificate in Business Analysis, Charles Sturt University, Australia 2019
- Scrum Fundamentals Certified, VMEdu Scrum Study 2020
- Health Safety and Environment Professional (HSE 1) 2020

AWARDS AND HONORS

GESTALT Information Technology Limited, Lagos 2021
Most Innovative Staff of the Year Award

Ladoke Akintola University of Technology, Ogbomosho, Nigeria 2008
Best Student in Computer Programming

LANGUAGES

English: Proficient in Listening, Speaking, Reading, and Writing

Yoruba: Native

REFERENCES

Prof. John B. Oladosu

Head of Department,
Department of Computer Engineering,
Faculty of Engineering,
Ladoke Akintola University of Technology.
jboladosu@lautech.edu.ng

Prof. Elizabeth A. Amusan

Head of Department,
Department of Cyber Security,
Faculty of Engineering,
Ladoke Akintola University of Technology.
eaadewusi@lautech.edu.ng

Dr. Emmanuel Okewu

Senior Lecturer,

Department of Computer Science,

Faculty of Science, University of Lagos.

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