

# Abdulqahar Mukhtar Abubakar

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**Summary** — Experienced Senior Data Analyst and Software Engineer with a strong background in data analysis, software development, and team mentoring. Expertise in programming, automation, and driving process improvements. Demonstrated ability to enhance operational efficiency, lead high-performing teams, and deliver innovative, high-quality solutions in fast-paced environments.

## Skills

**Automation** SaltStack, Ansible, Chef, Puppet

**Cloud** Salt-Cloud, Linode, GCP, AWS

**Coding** Python, R, PHP, C++, C#.Net, Scala, Java

**Database** MySQL, PostgreSQL, HSQL, SQLite

**Web Dev** HTML, CSS, JavaScript, Apache Web Server

**OS** Linux, Ubuntu, Android, Windows, AIX

**Policies** CIS, SOC2, PCI-DSS, GDPR, ITIL

**Testing** Pytest, Docker, CircleCI, Jenkins, Inspec

**Tools** Microsoft, Google, Workbench, ZohoOne,

Quickbooks, DHIS2, QGIS,

## Experience

### Ihope Global Services — Kano, Nigeria

Nov 2023 –

*Senior Data Analyst*

- Performed data entry, ensuring accuracy and consistency across datasets
- Led data-driven strategies, achieving 75% revenue growth
- Analyzed customer feedback using NLP, improving services and increasing satisfaction
- Conducted data analysis and created visualizations to deliver actionable insights
- Managed ZOHO One Suite, streamlining workflows and boosting operational efficiency
- Analyzed network traffic patterns to identify bottlenecks and optimize performance
- Implemented firewall rules to enhance network security and prevent unauthorized access
- Configured and monitored network security measures, including firewalls and intrusion detection systems
- Conducted regular vulnerability assessments and applied patches to secure systems
- Collaborated with cross-functional teams to streamline IT processes and improve efficiency
- Oversaw migration of critical business applications to cloud-based platforms
- Leveraged Azure and Office 365 for efficient data storage and collaboration
- Mentored junior data scientists, enhancing team performance and collaboration

### Pine Labs — Bangalore, India

Sep 2022 – Aug 2023

*Graduate Technical Intern (QA Engineer)*

- Utilized Git for managing test scripts and tracking code changes
- Maintained documentation for IT policies and procedures
- Automated tests with Selenium and Selenide to ensure software quality
- Collaborated with development teams to create test plans, cases, and strategies
- Performed functional, regression, and performance testing, fixing critical bugs pre-release
- Streamlined QA by integrating automated testing frameworks, reducing manual effort
- Designed and maintained CI/CD pipelines, enhancing testing and deployment efficiency
- Analyzed test results and documented reports to assist developers in troubleshooting
- Contributed to software development by identifying usability and performance improvements
- Led and mentored junior QA engineers, fostering skill development and improving team performance

### Nigerian Jubilee Fellow Program (NJFP) — Kano, Nigeria

Oct 2022 – Oct 2023

*Graduate Fellow*

- Mentored students through coding exercises and real-world project implementation
- Promoted peer-to-peer interactions, enhancing students' confidence and social adaptability
- Led software development projects, driving project planning, execution, and successful delivery
- Facilitated group discussions and collaborative projects, fostering interpersonal and social skill development
- Tutored students in programming and software development, boosting technical skills and performance
- Facilitated networking opportunities for students, connecting them with industry professionals and potential collaborators

### Yusuf Maitama Sule University — Kano, Nigeria

Sep 2021 – Nov 2022

*Research Assistant (Department of Computer Science)*

- Contributed to computer science research, aiding in academic papers and projects
- Assisted faculty in designing experiments, collecting data, and analyzing results for research
- Guided students in conducting research and solving technical challenges, enhancing their academic growth
- Assisted teachers in exam administration and coordination, ensuring smooth conduction
- Mentored students in programming, helping them develop coding skills and solve technical challenges

## **Surveillance Outbreak Response Management and Analysis System (SORMAS) — Kano, Nigeria** Dec 2020 – Aug 2021

*Data Engineer*

- Managed data entry processes, ensuring accurate and timely input of health data into the system
- Validated incoming data for accuracy, consistency, and completeness, ensuring high-quality data for analysis
- Developed and maintained data pipelines for efficient data processing and storage
- Collaborated with cross-functional teams to streamline data collection and reporting workflows
- Ensured compliance with data privacy and security standards in all data handling activities
- Performed data cleaning and transformation to prepare datasets for analysis and reporting

## **Yusuf Maitama Sule University — Kano, Nigeria**

**Aug 2019 – Nov 2020**

*Lab Technician — NYSC (Department of Computer Science)*

- Conducted Arduino practical classes, guiding students through hands-on projects and experiments
- Led Java programming practical sessions, helping students implement coding concepts and solve real-world problems
- Assisted in the smooth conduction of exams, ensuring proper setup and monitoring during assessments
- Provided technical support during practicals, troubleshooting issues and ensuring smooth sessions
- Collaborated with faculty to develop and update practical lab materials for programming and hardware courses

## **1to4 Technological solutions — Kano, Nigeria**

**Aug 2018 – Sep 2020**

*Senior Software Engineer*

- Designed and developed Java desktop applications, enhancing user experience and functionality
- Built and maintained C# applications, integrating them with databases and external systems
- Developed Android mobile applications, focusing on user-friendly interfaces and optimized performance
- Led the design and implementation of software architectures for complex projects, adhering to industry best practices
- Collaborated with cross-functional teams to define technical requirements and deliver high-quality software solutions
- Conducted code reviews and provided mentorship to junior developers, fostering continuous learning and improvement
- Managed project timelines and milestones, ensuring timely delivery of software solutions

## **Randatech Systems Limited — Kano, Nigeria**

**Jul 2018 – Jan 2019**

*Software Programming Tutor*

- Taught Microsoft Office (Excel, Access, Word, PowerPoint), improving students' software proficiency
- Conducted hardware practicals, teaching students assembly, repair, and troubleshooting
- Provided hands-on training in programming, helping students develop coding and problem-solving skills
- Trained students in programming, enhancing coding and problem-solving skills
- Created and managed course materials to enhance student learning and engagement
- Delivered networking courses, focusing on Cisco technologies and network setup, troubleshooting, and configuration

## **Kano State LLIN Mass Campaign using Cash Asset Transfer (CAT) — Kano, Nigeria**

**Dec 2017 – Jan 2018**

*Supervisor*

- Supervised the distribution of mosquito nets to ensure timely and accurate delivery
- Managed and coordinated the security and distribution teams to ensure smooth operations
- Ensured adherence to safety and security protocols during the distribution process
- Coordinated with local authorities and stakeholders to ensure community involvement and support for the campaign
- Monitored inventory and logistics, ensuring sufficient supplies for distribution across the designated areas

## **Education**

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### **Amrita Vishwa Vidyapeetham, Bangalore, India**

**2021 – 2023**

*Master of Technology in Data Science*

*First Class with Distinction*

### **Yusuf Maitama Sule University, Kano, Nigeria**

**2015 – 2019**

*Bachelor of Science in Computer Science*

*First Class Honours*

### **Base university, Abuja, Nigeria**

**2024 – 2025**

*Professional Diploma in Artificial Intelligence*

*Distinction*

### **Randatech Systems Limited, Kano, Nigeria**

**2017 – 2018**

*Diploma in Software Development*

*Distinction*

### **Himma ICT College, Kano, Nigeria**

**2014 – 2015**

*Diploma in Computer Networking and Maintenance*

*Upper Credit*

## Research Publications

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### Journal Articles —

1. A. M. Abubakar, G. Deepa, M. Venugopalan, and A. Aggarwal, “Enhancing emotion analysis: A multitasking approach for emotion classification and intensity prediction using stacked ensemble method, submitted,” PeerJ Computer Science, 2024
2. A. M. Abubakar, D. Gupta, and S. Vekkot, “Development of a diacritic-aware large vocabulary automatic speech recognition for hausa language,” International Journal of Speech Technology, pp. 1–14, 2024.

### Conference Proceedings —

1. A. M. Abubakar and G. Deepa, “A reinforcement learning approach for intelligent conversational chatbot for enhancing mental health therapy,” in International Conference on Machine Learning and Data Engineering, Springer, 2023.
2. A. V. Kumar, A. Wagh, A. M. Abubakar, J. Amudha, and K. Chandrika, “Assessing reading patterns of learners through eye tracking,” in International Conference on Multi-disciplinary Trends in Artificial Intelligence, Springer, 2023, pp. 766–777.
3. A. M. Abubakar, D. Gupta, and S. Palaniswamy, “Explainable emotion recognition from tweets using deep learning and word embedding models,” in 2022 IEEE 19th India Council International Conference (INDICON), IEEE, 2022, pp. 1–6.

## Projects

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### **An intelligent conversational agent for mental health therapy support via reinforcement learning.**

- Designed the agent to analyze input, detect emotions, and deliver therapeutic responses
- Applied NLP techniques for accurate understanding and meaningful user engagement
- Built and fine-tuned LLM for NLP using Python and Colossal-AI
- Collaborated with health professionals to ensure accurate and empathetic mental health support
- Focused on creating a state-of-the-art ASR system tailored to a low-resource language

### **Automatic Speech recognition in Hausa Language.**

- Enabled transcription of spoken Hausa into text, facilitating accessibility and NLP tasks
- Preprocessed and trained models on Hausa speech datasets to improve recognition accuracy
- Designed and implemented a pipeline for efficient speech-to-text conversion in Hausa
- Focused on creating a Diacritic-aware ASR system tailored to a low-resource language

### **Real Time Pedestrian Detection System with YOLO and Deep Learning Models.**

- Implemented a pipeline for detecting and tracking pedestrians in video streams with high accuracy
- Optimized YOLO for faster inference and improved detection in diverse environments
- Developed a user-friendly interface for monitoring and visualizing pedestrian detection results
- Focused on improving safety applications in autonomous systems and smart surveillance

### **Airline Flight Delay Prediction Using Machine Learning Models. Scala, pyspark.**

- Designed and implemented a distributed computing cluster to process large-scale flight datasets efficiently
- Utilized Big Data tools to clean, preprocess, and analyze datasets with millions of records
- Applied feature engineering to identify key factors contributing to flight delays
- Demonstrated scalability and robustness of the system for real-world big data applications

### **Student Portal for School of Hygiene, Ministry of Health, Kano.**

- Implemented features for student admission, course registration, and generation of examination cards.
- Created a system for managing and displaying exam results, ensuring secure access for students and staff
- Designed a user-friendly interface to enhance student experience in managing academic activities
- Integrated database solutions with SQL to store and retrieve student records efficiently
- Ensured data security and privacy through authentication and authorization mechanisms
- Collaborated with faculty to customize the portal's features to meet institutional requirements

### Point of Sale for Salbait Textile.

- Integrated features for generating monthly reports, visualizing sales trends, and tracking store performance
- Implemented staff management tools, including shift scheduling and payroll tracking
- Designed an expenses management system to monitor and control store expenditures
- Created a user-friendly interface for easy adoption by store staff and management

### Biometric-based Student Attendance System based on Many-to-many Matching.

- Implemented a many-to-many matching algorithm to match students with their classes and timetable schedules
- Reduced error rates in attendance tracking, ensuring accurate and efficient monitoring
- Minimized congestion during attendance marking by streamlining the biometric verification process
- Developed a user-friendly interface for teachers to easily manage and monitor attendance records
- Improved operational efficiency by automating the attendance process and reducing manual effort

### Inpatient and Outpatient Analysis and Predicating Length of Stay.

- Built a machine learning model to predict inpatient and outpatient length of stay using Python.
- Preprocessed and analyzed patient data to identify key features affecting hospitalization duration
- Applied various machine learning algorithms to predict patient length of stay with high accuracy
- Created data visualizations to identify trends and factors influencing patient stay duration
- Integrated predictive analytics into hospital systems for optimized resource allocation

### Staff Management system for The National Orthopaedic Hospital (NOH) Dala-Kano.

- Designed features for managing staff records, including attendance, payroll, and scheduling
- Implemented a user-friendly interface for efficient staff data entry and report generation
- Integrated MySQL database to store and manage staff information securely
- Streamlined staff scheduling, improving shift management and resource allocation
- Enabled automated payroll processing, ensuring accurate salary calculations
- Enhanced reporting capabilities to track performance and attendance metrics

## Achievements

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### Awards —

<b>University Level Silver Medalist</b> <i>Amrita Vishwa Vidyapeetham, Bangalore Campus</i>	2023
<b>Third Rank</b> <i>MTech Data Science, Amrita Vishwa Vidyapeetham, Bangalore Campus.</i>	2023
<b>Amrita Chancellor Scholarship</b> <i>Amrita Vishwa Vidyapeetham, Bangalore Campus.</i>	2021
<b>Study in India Scholarship</b> <i>Ministry of Education, India.</i>	2021
<b>Best Graduating Student</b> <i>Department of Computer Science, Yusuf Maitama Sule University Kano</i>	2018
<b>Runner-Up (Software Competition)</b> <i>Nigeria Association of Computing Students (NACOS)</i>	2017

### Professional Membership —

1. Data Science Nigeria (DSN)
2. Practical Artificial Intelligence Development Foundation (PAIDF)
3. Nigeria Computer Society (NCS)

### Academic Service —

1. Reviewer for International Journal of Speech Technology (IJST)
2. Reviewer for Journal of Artificial Intelligence and Applications (AIA)
3. Reviewer for Journal of Recent Advances in Computer Science and Communications
4. Invited Guest at the First Technical Webinar of the Practical Artificial Intelligence Development Foundation (PAIDef), titled: “Methods for Developing NLP Resources for the Hausa Language”

## Certification —

1. **UI Automation and Selectors.** UiPath.
2. **Foundations of Software Testing and Validation.** University of Leeds.
3. **Mastering Reviews and Test Automation: Techniques and Tools.** Board Infinity.
4. **Social Media Automation using Python.** Packt.
5. **Ethics, Technology and Engineering.** Eindhoven University of Technology.
6. **Mastering Usability Testing: Techniques and Best Practices.** Board Infinity.
7. **Automating your API tests with REST Assured.** Test Automation University.
8. **Trustworthy AI for Healthcare Management.** Politecnico di Milano.
9. **Clinical Natural Language Processing.** University of Glasgow.
10. **Probabilistic Graphical Models Specialization.** Stanford University.
11. **Natural Language Processing on Google Cloud.** Google Cloud.
12. **Foundations of Public Health Practice: The Public Health Approach.** Imperial College London.
13. **Epidemiology for Public Health.** Imperial College London.
14. **Responsible AI - Principles and Ethical Considerations.** Fractal Analytics.
15. **Understanding Research Methods.** University of London and SOAS University of London.
16. **Automating your API tests with REST Assured.** Test Automation University.
17. **Text Mining and Analytics.** The University of Illinois.
18. **Cloud Engineering.** Google Cloud.
19. **BigQuery GIS for Data Analysts.** Google Cloud.
20. **GIS, Mapping, and Spatial Analysis.** University of Toronto.
21. **Computer Networking.** Illinois Tech.
22. **Blockchain Specialization.** University of Buffalo.
23. **Natural Language Processing.** Higher School of Economics University.
24. **Advanced Computer Vision with Tensorflow.** DeepLearning.AI.
25. **Solve Business Problems with AI and Machine.** DeepLearning.AI.