

Nasir Abdurashed

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SUMMARY

Health data scientist and medical doctor with expertise in clinical medicine, data science, machine learning, artificial intelligence, and medical image processing. Proficient in Python programming, JS, R, and SQL, with extensive experience applying machine learning and deep learning techniques to solve complex healthcare problems. Passionate about bridging clinical medicine with cutting-edge technology and AI research to improve healthcare delivery. Fluent English communicator with strong academic writing and scientific communication skills.

EDUCATION

University of St. Andrews

St. Andrews, Fife

MSc Health Data Science – Graduated with Distinction

Dec. 2025

- Dissertation titled “CXR-LT: Long-Tailed Multi-Label CXR Classification” – deep learning applied to over 600k chest X-ray images
- Relevant modules: Machine/Deep Learning, Biomedical Imaging and Sensing (X-rays, MRI, CT, USS, PET), Medical Imaging Analysis, Health Data Science Practice, Data Mining and Knowledge Discovery, Epidemiological Modelling, Advanced Computing, Programming Principles and Practices

ALX Holberton School

Remote

Certificate of Completion – Software Engineering

Jun. 2023

- Rigorous one-year project-based Software Engineering online course covering low-level programming to web development
- Technologies: C, Python programming, JavaScript, Linux, Data Structures & Algorithms, DevOps, Version control, Flask, FastAPI, Docker, Cloud computing, REST APIs
- Final project: Chat application using web sockets with the SocketIO library

University of Ilorin

Ilorin, Kwara

MB; BS Medicine and Surgery

Dec. 2019

- Relevant modules: Surgery, Medicine, Biostatistics, Epidemiology, Radiology, Ophthalmology
- Completed 6 years of medical and surgical training

SKILLS

Programming & Coding: Python programming, R, JavaScript, SQL

AI, Machine Learning & Deep Learning: Supervised and unsupervised machine learning, deep learning with PyTorch and TensorFlow, PyTorch Lightning, Scikit-learn, XGBoost, Neural Networks, Convolutional Neural Networks (CNNs), ensemble methods, AI Agents, MCPs

Data Science: Statistical modelling, NumPy, SciPy, Pandas, Matplotlib, Power BI, Microsoft Excel

Radiology & Medical Imaging: Radiology interpretation, medical image analysis, chest X-ray interpretation, CT scan interpretation, MRI interpretation, ultrasound (USS) interpretation, diagnostic imaging

Tools & Infrastructure: Git/GitHub, Linux, Docker, AWS

Web Frameworks: FastAPI, Flask, SvelteKit

Clinical & Research: Medical diagnosis and treatment, physical examination, academic research writing, data analysis, collaboration, scientific communication

Languages: English (fluent), Yoruba, Arabic

RELEVANT ACADEMIC PROJECTS

CXR-LT: Long-Tailed Multi-Label Chest X-Ray Classification | *MSc Dissertation*

May 2025

- Developed deep learning models using PyTorch and convolutional neural network (CNN) architectures to classify 40 pathologies across a long-tailed distribution of over 600k chest X-ray images
- Evaluated and extended CheXFusion, a multi-staged hybrid CNN-Transformer architecture to investigate mitigations for the effects of extreme label imbalance.

- Applied machine learning techniques, including class-balanced sampling, loss re-weighting, and ensemble methods to address severe class imbalance
- Implemented full machine learning pipelines from data preprocessing and augmentation through model training, evaluation, and analysis using Python programming

Predictive Modelling of the Wisconsin Breast Cancer Dataset May 2025

- Conducted computational experiments using Python programming to investigate the performance of Logistic Regression, Random Forest, and XGBoost machine learning models in predicting breast cancer malignancy
- Assessed the impact of feature selection with Recursive Feature Elimination (RFE) on machine learning model performance to determine the optimal features required for accurate prediction

Deep Learning Model for Identifying Pneumonia in X-Ray Images Apr. 2025

- Created a deep learning model using pretrained CNN architectures – ResNet50V2, DenseNet169, and Xception – implemented in Python with TensorFlow/Keras
- Integrated pretrained CNNs into a simple ensemble framework for pneumonia classification to augment clinicians’ diagnostic workflow

Predictive Modelling of Temperature Apr. 2025

- Collaborated with five colleagues to create four machine learning regression models using Light Gradient Boosting, Neural Network, K-Nearest Neighbour, and Logistic Regression to predict temperature and made appropriate recommendations to a stakeholder

Predicting Bank Customer Behaviour Feb. 2025

- Built and optimised a machine learning model in Python to predict the deposit behaviour of a bank’s customers and made recommendations to guide marketing strategies

Heart Rate Estimation from Optical Sensor Data Jan. 2025

- Created a Python-based method to estimate the heart rate of a patient using an optical data sensor and the video of a finger placed on a camera lens, applying signal processing and machine learning techniques

Bike-Sharing Time-Series Analysis Nov. 2024

- Applied time-series statistical modelling to explore factors influencing rentals for Transport for London using R regression packages

Population Data Analysis – Scotland Census Dec. 2024

- Conducted detailed exploratory data analysis and statistical modelling of Scotland’s census data using Python and R

Knowledge, Attitude and Use of Personal Protective Equipment among sawmill workers in selected sawmills in Ilorin Metropolis 2018

- A research project submitted to the Department of Epidemiology and Community Health, University of Ilorin, in partial fulfilment of the award of MB; BS

PROFESSIONAL EXPERIENCE

Residential Assistant, Summer Academic Experience Course Jul. – Aug. 2025

International Education Institute, University of St Andrews *St Andrews, UK*

- Looked after minors during summer school
- Planned and coordinated cohort activities
- Guarded and supervised excursions across Scotland
- Role required passing a PVG check

Medical Officer Jun. 2023 – Jul. 2024

Ibadan Central Hospital *Ibadan, Oyo*

- Provided comprehensive inpatient and outpatient care
- Delivered surgical and referral services
- Interpreting investigation results, including medical images
- Served as the director of clinical education

Backend Engineer Intern Aug. 2023 – Oct. 2023

HNG *Remote*

- Completed stage-based software engineering internship with progressively challenging coding tasks (Stages 1–10)

- Built multiple APIs using Python programming for products deployed in production on AWS and GCP

Medical Officer

Apr. 2022 – Mar. 2023

Medical Reception Station, Zuma Barracks

Suleja, Niger

- Served as the only medical doctor and head of the medical team, providing comprehensive inpatient and outpatient care
- Managed common medical and surgical cases and coordinated referrals to higher medical centers
- Participated in administrative tasks for the hospital's day-to-day operations
- Provided continuous medical education to hospital staff and patients, primarily families of army personnel

Machine Learning Intern

Sep. 2022 – Oct. 2022

Global AI Hub

Remote

- Completed international bootcamp covering various machine learning algorithms and techniques using Python programming
- Completed ML tasks and received certificate of completion

Medical Intern

Nov. 2020 – Nov. 2021

Federal Medical Centre, Keffi

Keffi, Nasarawa

- Participated in history-taking, examination, and management of patients across all four major clinical departments, plus Ophthalmology, Radiology and ENT as the first point of contact
- Collaborated with senior colleagues on health research projects
- Assisted and performed surgical procedures

RESEARCH EXPERIENCE

Researcher | *MCON Research Institute*

Aug. 2021 – Present

- Contributed to global health research team identifying factors propagating Monkeypox in Nigeria
- Co-authored research findings submitted for publication in the Pan-African Medical Journal

Public Health Intern | *West African Institute of Public Health*

Jun. 2023 – Nov. 2023

- Collaborated with diverse team on policy brief: "Building Trust Through Health Risk Communication as Public Health Advocates"
- Received recognition and certificate of completion for the policy brief

Data Lead and Researcher | *COVID-19 Vaccine Acceptance Study*

Mar. 2021 – Aug. 2021

- Led cross-sectional survey examining factors influencing COVID-19 vaccine acceptance among healthcare workers in selected tertiary facilities in Northern Nigeria

Undergraduate Researcher | *University of Ilorin*

2018

- Conducted research on knowledge, attitude, and use of personal protective equipment among sawmill workers in Ilorin metropolis
- Acquired skills in study design, questionnaire composition, and research writing

Undergraduate Researcher | *University of Ilorin*

2017

- Investigated prevalence of psychoactive substance use among medical students at the College of Health Sciences

RESEARCH PUBLICATIONS

1. Uwishema, O., Taylor, C., Lawal, L., Hamiidah, N., Robert, I., **Nasir, A.**, et al. (2022). The syndemic burden of HIV/AIDS in Africa amidst the COVID-19 pandemic. *Immunity, inflammation and disease*, 10(1), 26–32. <https://doi.org/10.1002/iid3.544>
2. Uwishema, O., Lawal, L., Sun, J., Hamiidah, N., **Nasir, A.**, Robert, I., et al. (2022). Colombia protests amidst the COVID-19 pandemic: implications and recommendations. *Medicine, Conflict and Survival*, 38(2), 87–92. DOI: 10.1080/13623699.2022.2056954
3. Lawal, L., Lawal, A. O., Amosu, O. P., Muhammad-Olodo, A. O., **Abdulasheed, N.**, et al. (2022). The COVID-19 pandemic and health workforce brain drain in Nigeria. *International journal for equity in health*, 21(1), 174. <https://doi.org/10.1186/s12939-022-01789-z>
4. Aborode, A. T., Obianuju, A. F., Lawal, L., **Abdulasheed, N.**, et al. (2023). Neglected tropical diseases in conflict-affected areas in Africa: an unknown burden. *International Journal of Surgery: Global Health*, 6(5):e0250. DOI: 10.1097/GH9.0000000000000250
5. **Abdulasheed, N.**, Lawal, L., Mogaji, A. B., Abdulkareem, A. O., Shuaib, A. K., et al. (2023). Recurrent diphtheria outbreaks in Nigeria: A review of the underlying factors and remedies. *Immun Inflamm Dis.*, 11(11):e1096. DOI: 10.1002/iid3.1096

ACHIEVEMENTS

Commonwealth Shared Scholarship

2024 – 2025

- Awarded to impactful and top-performing candidates globally
- Fully funded MSc studies at the University of St Andrews

Abdulkabir Aliu Foundation Scholarship Grant

2016 – 2019

- Awarded to academically excellent Muslim students in Nigerian Universities

CONTINUING EDUCATION

Fundamentals of MCP – Hugging Face (Sep. 2025)

AI Agents Fundamentals – Hugging Face (Sep. 2025)

Basic Life Support Provider – NHCPS, US (Aug. 2022)

Python for Machine Learning – Global AI Hub International Bootcamp (Oct. 2022)

Occupational Health in Developing Countries – University of Bergen, MOOC (May 2020)

Introduction to Poliomyelitis and the Global Polio Eradication Initiative – W.H.O. (Mar. 2020)