HYGINUS ECHEZONA OKONKWO

HEALTHCARE DATA ANALYTICS | CLINICAL PHYSIOLOGY | RESEARCH

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PROFESSIONAL PROFILE

Health science professional combining clinical physiology, postgraduate research and practical data analytics training. Completed Python machine learning, PostgreSQL and Tableau capstones involving data validation, demographic comparisons, dashboard design and statistical interpretation. Brings experience in cardiac diagnostics, evidence synthesis and accurate care documentation, with co-authorship of three peer-reviewed publications. Seeking healthcare data analyst or junior data analyst opportunities.

ANALYTICAL AND TECHNICAL SKILLS

SQL / PostgreSQL: joins, aggregations, temporary views, common table expressions, window functions and data-quality checks. Tableau: calculated fields, interactive filters, KPI cards, dashboards and trend analysis.

Analysis and research: data cleaning, descriptive statistics, linear regression interpretation, systematic reviews, meta-analysis and critical appraisal; SPSS, RevMan and GraphPad Prism.

Python / scikit-learn: preprocessing pipelines, feature engineering, regression, grouped cross-validation and model evaluation; pandas, NumPy, Matplotlib, Seaborn and Jupyter Notebook. Continuing development: Excel and R.

SELECTED DATA ANALYTICS PROJECTS

Tech Job Salary Prediction | Python / Machine Learning | 2026

- Cleaned job advertisement data, explored salary patterns and engineered features; compared Linear Regression, Random Forest and tuned Gradient Boosting with scikit-learn pipelines and grouped cross-validation.
- Kept matching advertisements in the same split to reduce leakage; assessed MAE, RMSE, R^2 and subgroup errors on 457 test records. Documented currency and pay-period limitations before recommending further validation.

Skin Cancer Data Analysis | PostgreSQL | 2026

- Analysed 1,088 joined patient and lesion records; checked join integrity, repeated identifiers, missing measurements and diagnosis patterns using SQL.
- Compared demographics and lesion characteristics; documented findings, data limitations and recommendations in a report. Treated results as descriptive associations rather than causal or diagnostic claims.

Repository: github.com/totustuusinchristus-byte/skin-cancer-sql-analysis

Global COVID-19 Vaccination Analysis | Tableau | 2026

- Created an interactive dashboard covering global progress, daily vaccination activity, income-group differences, country coverage and GDP per capita using a historical capstone dataset.
- Reported global full vaccination coverage of 64.93 per 100 people as of 14 August 2024; interpreted the GDP association across 189 countries ($R^2 = 0.328$), with reporting-date and causality limitations.

Repository: github.com/totustuusinchristus-byte/covid-vaccination-analysis

Interactive dashboard: Tableau Public

Additional Python learning projects on GitHub: EMG signal analysis, postural sway analysis and closed-loop balance control, using synthetic data or simplified simulations.

EDUCATION AND DEVELOPMENT

Full Stack Data Science training | 10Alytics | May 2026–Present

MSc Clinical Exercise Physiology | Northumbria University, UK | 2023–2024

MSc Pharmacology, Therapeutics and Toxicology | University of Lagos, Nigeria | 2019–2021

BSc Human Physiology | Nnamdi Azikiwe University, Nigeria | 2011–2015

PROFESSIONAL AND CLINICAL EXPERIENCE

Waking Night Residential Support Worker | Cambian Dilston College, UK | May 2025–Present

- Provide person-centred overnight support to young people with autism, learning disabilities and complex needs in a specialist residential education setting.
- Maintain accurate care and incident records, undertake periodic observations, communicate changes and contribute to safeguarding, risk management and handovers.

Support Worker | Standby Healthcare, UK | Aug 2024–May 2025

Support Worker | One Care Solution, UK | Oct 2023–Sep 2024

Provided person-centred support within UK care services, applying communication, safeguarding and documentation skills.

Clinical Exercise Physiology Placement | Queen Elizabeth Hospital, Gateshead | 2023–2024

- Completed MSc placement with exposure to cardiopulmonary rehabilitation and cardiac outpatient pathways, including chest pain, arrhythmia and heart failure services.
- Gained supervised practical exposure to ECG, Holter monitoring, spirometry and echocardiography workflows; observed transoesophageal echocardiography, cardiac MRI and catheter laboratory services.

Cardiac Physiologist | Joe Nwiloh Heart Center, Nigeria | 2022–2023

- Performed transthoracic echocardiography and Doppler studies, ECG, Holter monitoring, vascular ultrasound and treadmill stress tests; prepared reports for clinical review.
- Supported patient preparation and communication during diagnostic procedures and communicated physiological findings to clinical colleagues.

RESEARCH EXPERIENCE

MSc Research Project | Northumbria University | 2024

Systematic review and meta-analysis of aerobic exercise interventions in kidney-transplant recipients. Applied structured searching, study selection, data extraction, critical appraisal and risk-of-bias assessment; used RevMan to synthesise outcomes. Unpublished MSc project.

Postgraduate Pharmacology Research | University of Lagos | 2019–2021

Investigated Nymphaea lotus in neurotoxin-induced seizure models, supporting experimental procedures, behavioural assessments, data analysis and interpretation. Contributed to a peer-reviewed publication in Epilepsy Research.

SELECTED PUBLICATIONS

Co-author (Okonkwo HE) of three peer-reviewed papers:

- Anticonvulsant activity of Nymphaea lotus Linn. extract in mice: the role of GABAergic-glutamatergic neurotransmission and antioxidant defence mechanisms. Epilepsy Research. 2022;181:106871. DOI: 10.1016/j.eplepsyres.2022.106871.
- Morbidity pattern and illness variances among the elderly seen in General Out-Patient Department of Comprehensive Health Centre, Ukpo, South East Nigeria. International Journal of Health Sciences and Research. 2023;13(6):153–160.
- Knowledge, attitude and prevention of Lassa fever transmission among women in Nnewi North LGA, Anambra State, Nigeria. International Journal of Tropical Disease & Health. 2023;44(11):27–44. DOI: 10.9734/IJTDH/2023/v44i111439.

PROFESSIONAL DEVELOPMENT

Training includes Basic Life Support, First Aid, Care Certificate, safeguarding, manual handling, NAPPI, PMVA and CPI / emergency response.

Professional memberships: British Society of Echocardiography; Association for Respiratory Technology and Physiology; European Respiratory Society; Society for Cardiological Science and Technology.