Bolu Oluwalade

EDUCATION

- **Indiana University - Purdue University Indianapolis (IUPUI)**
  - Master of Science in Health Informatics**,** May 2020
    - Thesis work entitled "Building a Composable Health Records System using Fast Healthcare Interoperability Resources (FHIR) Web Components"
- **Babcock University - Ilishan Remo, Nigeria**
  - Bachelor of Science in Medical Laboratory Science, June 2014

TECHNICAL SKILLS

- **Programming and Scripting languages:** R, SQL, Python, Linux, XML, JSON, HTML, YAML, LaTeX
- **Machine Learning and Artificial Intelligence (AI)**: Classification and Regression Models, Deep Learning Algorithms, TensorFlow, Keras
- **Data Analytics:** Data Mining, Data visualization, Data Manipulation, Statistical Inference, Dashboard Development
- **Databases:** Oracle, Postgres, Microsoft SQL Server, BigQuery, DuckDB
- **Software/Tools:** RMarkdown, RStudio, Jupyter Notebook, VS Code, REDCap, SSMS, Netezza, Qlik Sense, Tableau, PowerBI
- **Healthcare Standards/Terminologies:** HL7 v2, SNOMED CT, LOINC, FHIR, ICD/CPT
- **Research**: Qualitative and Quantitative research methods, Scientific Writing
- **Version control/Documentation:** GitHub, GitLab, Code Review

RELEVANT PROFESSIONAL EXPERIENCE

Data Programmer Analyst, The Children's Hospital of Philadelphia**,** Philadelphia, PA
November 2021 - Present

- Analyzed healthcare data using SQL, R, and PowerBI to provide useful insights to clinical teams through tables and dashboards, leading to improved decision-making and the quality of care.
- Collaborated with Quality Improvement Advisors to enhance clinical and operational workflows using Plan-Do-Study-Action (PDSA) cycles and Statistical Processing Control (SPC) charts to monitor progress.
- Collaborated with clinicians and researchers at various institutions to develop cohorts and metrics for research using electronic health records systems (EHRs).

Data Analyst, The Family Institute at Northwestern University, Evanston, IL
August 2021 - November 2021

- Leveraged business insights and technical skills to create dynamic dashboards using Python programming language and PowerBI that drives strategic decision-making of the service line and executive leadership
- Ensured data quality and analytical accuracy of organization-wide reports.

Covid-19 Data Analyst, Indiana Department of Health (IDOH) - Indianapolis, IN
July 2020 – November 2021
- Actively involved in the design and implementation of a web-based reporting system for COVID-19 point-of-care lab reports using REDCap and R. This system reduced the average time for lab reports processing into the state surveillance system (NBS) from more than 72 hours to less than 24 hours and allowed for improved trackability and accuracy.
- Created interactive and dynamic dashboards using SQL, Tableau, and R to guide business decision-making processes.
- Conducted analysis at the state government level to track the use of COVID-19 testing kits distributed to K1-12 schools and long-term care facilities in Indiana.

Student Developer, Google Summer of Code - Remote
June 2020 - August 2020
- Selected as one of the 1,198 out of 51,244 student applicants for the 2020 Google Summer of Code based on my ability to develop innovative solutions in healthcare.
- Contributed to the LibreHealth open-source EHR development by creating front-end FHIR-based web components using JS, HTML, CSS, and Lit Elements.

Graduate Research Assistant, Purkayastha Lab for Health Innovation, SOIC, IUPUI
January 2019 - May 2020
- Built deep learning models for human activity recognition based on accelerometer and gyroscope data from smartwatches and smartphones using Keras and TensorFlow. Obtained a classification precision of more than 90% for all the activities.
- Prepared and formatted drafts of research findings for review by the Principal Investigator and eventual journal publication.

PUBLICATIONS (PEER-REVIEWED)

Carr, L. H., **Oluwalade, B.,** Muthu, N., Beus, J., & Bonafide, C. P. (2023). Between-hospital variation in clinical decision support availability for common inpatient pediatric conditions: Results of a national Pediatric Research in Inpatient Settings (PRĪS) Network survey. Journal of Hospital Medicine.

Oluwalade, B., Neela, S., Wawira, J., Adejumo, T., & Purkayastha, S. (2021). Human activity recognition using deep learning models on smartphones and smartwatches sensor data. *arXiv preprint arXiv:2103.03836.*

Purkayastha, S., Goyal, S., **Oluwalade, B**., Phillips, T., Wu, H., & Zou, X. (2021). Usability and security of different authentication methods for an electronic health records system. arXiv preprint arXiv:2102.11849.

Bhimireddy, A., Sinha, P., **Oluwalade, B.,** Gichoya, J. W., & Purkayastha, S. (2020). Blood glucose level prediction as time-series modeling using sequence-to-sequence neural networks. CEUR Workshop Proceedings.

PUBLICATIONS (PRE-PRINT/ IN-REVIEW)

Oluwalade B, Apte S, Purkayastha S.Building a Composable Electronic Health Records System using Fast Healthcare Interoperability Resources (FHIR) web components. JMIR Preprints. 15/04/2021:29674

Mercado O, Ruan A, Gibbs K, **Oluwalade B**, Devine M, Carr L. Leveraging Novel Clinical Decision Support to Improve Preferred Language Documentation in a Quaternary Neonatal Intensive Care Unit.

PUBLISHED ABSTRACT

Mercado O, Ruan A, Gibbs K, **Oluwalade B**, Devine M, Carr L (2022). Leveraging Novel Clinical Decision Support to Improve Preferred Language Documentation in a Quaternary Neonatal Intensive Care Unit. AMIA 2022 Symposium Proceedings

RESEARCH PRESENTATIONS

- Fall Virtual Conference 2020 - KY & IN Chapters of HIMSS. Building a Composable EHR System on FHIR Resources

AWARDS

- **Poster Presenter Winner, Student Submission:** Indiana HIMSS Healthy Mother + Baby Datapalooza.
- **Recipient**, Indiana University Graduate Research Scholarship Award.

CERTIFICATIONS AND PROFESSIONAL MEMBERSHIP

- Epic Clarity Data Model   Dec 2023
- Machine Learning Specialization   Oct 2023
- AWS Certified Cloud Practitioner   Nov 2022
- Epic Clinical Data Model   May 2022
- Google Data Analytics Professional Certificate   June 2021
- Tableau Analyst   June 2020
- Member, Healthcare Information and Management Systems Society (HIMSS)   Sept 2019 – Present

INTERESTS

- Soccer, Reading, and Traveling.