

AJALA, MARVELLOUS OLUWAMAYOWA

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RESEARCH INTEREST

Exploring the applications of artificial intelligence and machine learning in healthcare and drug discovery

EDUCATION

Bachelor of Pharmacy, University of Lagos, Nigeria

2016 - 2023

Relevant Coursework: Scientific processes, Research Methods, Introductory Computer science, Introduction to Calculus, Probability and Statistics, Pharmacology

CGPA: 4.40/5.0

RESEARCH EXPERIENCE

Researcher

CohereForAI, SisonkeBiotik

Lead-Investigator

ongoing

Identification of novel antidiabetic agent from African Medicinal plant using machine learning based Molecular docking technique

- **Supervisor:** Florence Nkemehule (PhD)
- **Summary:** Exploration of machine learning techniques in the conformational structure prediction of ligand pose and binding affinity scoring during molecular docking and benchmarking on novel ligand-protein pair for lead identification of antidiabetic agent.

Investigator

MLGH Workshop, ICLR2023 ([print](#))

A Framework for Grassroots Research Collaboration in Machine Learning and Global Health

- **Collaborators:** Chris Fourie, Jade Abbott, Christopher Currin... **Marvellous Ajala**
- **Summary:** We proposed an alternative bottom-up approach towards participatory research in machine learning for global health targeted towards grassroot participation and provided a framework for conceptualising, bootstrapping and expanding the research.

Co-Lead Investigator

Bachelor of Pharmacy, University of Lagos Undergraduate research ([preprint](#))

Use of artificial intelligence in the classification of microscopical images of starch for drug formulation

2023

- **Advisor:** Odimegwu, Joy I (PhD).
- **Collaborators:** Blessing Oko, David Oba-Fidelis, Joycelyn Iyasele.
- **Summary:** Curated a novel dataset containing microscopical images of different starch samples of pharmaceutical importance, compared pretrained on Imagenet and Micronet (microscopical images) ConvNets models for classification of preselected starch samples.

SELECTED INDEPENDENT COURSEWORK

Programming for Data Science with Python, Udacity Nanodegree

Deep Learning, AI Saturday Lagos

Practical Deep Learning for Coders fast.ai

Harvard CS197: AI Research Experience

SKILLS

Machine Learning	Scikit-learn, Pytorch, Tensorflow, Jax, OpenCV, NLTK
Data Science	Pandas, Numpy, Matplotlib, Seaborn, Prefect, Mlflow, Streamlit, SQL, Tableau.
Tools/OS	Flask, Fastapi, Docker, Linux (Ubuntu), Windows, Git, Github
Soft Skills	Leadership, Teamwork, Critical thinking, Problem solving, Communication

EXPERIENCE

Student intern pharmacist Nov 2019 - Jan. 2020
Yem-Yem Pharmacy, Unilag, Akoka *Lagos, Nigeria*

- Collaborated with the pharmacists in reviewing the medication orders for accuracy and completeness and ensuring that there are no potential drug interactions or contraindications..
- Under the guide of pharmacists in charge filled drug prescriptions for patients. to ensure continued access to good and qualitative medications.
- Counselling patients on the proper use of their medications, including how to take them, what side effects to watch for, and how to store them safely.

Co-Founder, Head of Operations and Data scientist Aug 2020 -Feb 2021
Lifebox Labs *Lagos, Nigeria*

- Implemented data visualization techniques to effectively communicate complex analysis and insights to a non-technical audience, meeting the company's needs for clear and concise reporting.
- Utilized machine learning techniques to build a model for predicting whether a patient was diabetic or not, resulting in improved accuracy and efficiency in patient screenings. Worked with healthcare professionals to fine-tune the model and ensure its practical usefulness in a clinical setting.

Junior ML engineer Sept 2021 - Nov 2021
Dryad Network [Omdena] *Berlin, Germany*

- Managed the documentation process for the project, ensuring accurate and organized records were maintained throughout the project lifecycle.
- Conducted data cleaning, transformation, and feature selection on provided dataset.
- Collaborated effectively within a multidisciplinary team, actively contributing to the development and implementation of machine learning algorithms focused on leveraging sensor data to create predictive models for wildfire detection and prevention.

Student intern pharmacist Oct. 2021 - Dec. 2021
LAUTECH Teaching Hospital *Ogbomoso, Nigeria*

- Under the supervision of attending pharmacists reviewed and approved medication orders written by doctors and other healthcare providers.
- Monitored the medications of over 100 hospitalized patients, and adjusting dosages or prescribing alternative medications as needed to ensure that patients are receiving the most appropriate treatment.
- Worked alongside other pharmacists to manage the pharmacy's inventory and ordering new medications as needed.

ML engineer May 2022 - Sept. 2022
Recop.it *Lagos, Nigeria*

- Utilized web scraping techniques to gather and clean data from various online sources, resulting in a more comprehensive and accurate dataset for analysis.
- Designed and implemented a data pipeline to efficiently and effectively process and store data, allowing for more efficient analysis and reporting.
- Built a recommendation system using machine learning algorithms to provide personalized recommendations to users, resulting in increased engagement and satisfaction.

ML engineer

Meuve Health

Sept. 2022 - present

Lagos, Nigeria

- Designed and implemented a data acquisition pipeline to efficiently gather and process large volumes of data from a variety of sources.
- Utilized machine learning techniques to build a model for accurately identifying, tracking, and quantifying workouts, resulting in more effective and personalized fitness tracking for users. Worked with a cross-functional team to integrate the model into the company's existing fitness platform, ensuring seamless deployment and user experience.

AWARDS, RECOGNITION AND FELLOWSHIPS

Deans Merit List, 2018 Was on the Dean's merit list for maintaining a distinction CGPA for the entire session

Bridge Fellowship, 2022 Was selected as one of forty fellows for Bridge fellowship, a highly selective fellowship that identifies and develops change-makers, entrepreneurs and high potential students enrolled in undergraduate program across Nigeria.

1st Prize, Bert Leon Strong Scholarship Award, 2023 Won the Bert Leon Strong Award by Greta R. Strong (PhD) on writing an award winning essay on Leadership and self development..

TALKS/POSTER

Deep Learning Indaba, 2022 Did a poster presentation on my project "Use of computer vision technique in classification of microscopical images of starch for drug formulation" to over 400 ML researchers and engineers.

DevFest Ogbomoso, 2022 Gave a talk on "Deploying machine learning models to production" to a population of about 200 attendees

VOLUNTEERING

Core committee member, Google Developer Students Club, Unilag (2020-2022) Collaborated alongside with other community members in running GDSC, Unilag, organising programs and events on career development, tutorials/bootcamps, study groups, career fairs and mentorship in different software engineering .

Data Science Mentor, Google Developer Science Club, Unilag (2022-present) Mentored over 15 students looking forward to getting started with data science and machine learning, providing them with technical support and resources they need.

Data Science Tutor, Nsonye (March - November, 2022) Developed curriculum and taught over 20 women just getting started in data science through Nsonye Platform.

ML-healthcare lead, CohereForAI (January 2022 - present) Alongside my co-lead, we moderate conversations on ml for healthcare for other community members, organise reading group sessions, invited speakers sessions, knowledge sharing sessions and monthly hangout for people interested in ML for healthcare research.