AJALA, MARVELLOUS OLUWAMAYOWA

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RESEARCH INTEREST

Computational approaches and application of artificial intelligence in drug discovery process.

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: 4.43/5.0

Undergraduate thesis

Structure-based in silico studies of the phytochemicals in Dialium guineense leaf for the identification of antidiabetic compounds

- **Supervisor:** Florence Nkemehule (PhD)
- **Summary:** Application of structure-based computational methods (molecular docking, molecular dynamics) towards characterisation and identification of potential antidiabetic agent present in the leaf of Dialium guineense (an African traditional medicinal plant).

RESEARCH EXPERIENCE

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 reseach* (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

AI Saturday Lagos: Deep Learning
Fast.ai: Practical Deep Learning for Coders
NYU DS-GA 1008: Deep Learning course
Harvard CS197: AI Research Experience
University of Washington CSE599: AI for Drug Discovery
MIT Computational biology course

SKILLS

Machine Learning	Scikit-learn, Pytorch, Tensorflow, Jax, OpenCV, NLTK
Data Science	Pandas, Numpy, Matplotlib, Seaborne, 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.
- Counselled 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   Aug 2020 -Feb 2021
Lifebox Labs   *Lagos, Nigeria*

- Conceptualised, formulated and implemented compelling growth strategy, driving growth and efficiency while managing the day-to-day operations of the startup, ensuring smooth functioning and meeting operational targets.
- Translated complex business data into compelling and insightful data visualizations, driving stakeholder engagement and informed decision-making.
- Leveraged data storytelling to effectively communicate key business metrics and trends, fostering transparency and alignment across the organization.

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 *(defunct)*   *Lagos, Nigeria*

- Employed various web scraping techniques to gather and clean data from various online sources.
- 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   Sept. 2022 - Oct 2023
JuiceLife *(previously Meuve Health)*   *Lagos, Nigeria*

- Designed and implemented a data acquisition pipeline to efficiently gather and process large volumes of data from a variety of sources.

- Built machine learning models to accurately identify, track, and quantify workouts for fitness tracking for users. Worked with other professionals in a cross-functional team to integrate the model into the company's existing fitness platform, ensuring seamless deployment and user experience.
- Developed an agent-based AI coach to provide personalised guidance and support to users resulting in better suitability and adaptability of workouts to users' goals.

Intern pharmacist   Nov 2023 - present
Bowen University Teaching Hospital   *Ogbomoso, Nigeria*

- Ensure the supply of good and quality medications to patient.
- I vet patients prescriptions ensuring that their medications are appropriate, correct, safe to use and all their medication needs are met.
- I offer pharmaceutical care and advise to patient about their medications on when to use, how to use, expected adverse effect and answer all patients questions about their medications.

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.

DevFest Ogbomoso, 2023 Gave a talk on "READMEs,commit messages and comment: the three musketeers of Opensource collaborations"

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 - October 203) 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.

Core committee member, SisonkeBiotik (April 2023 -present) With other committee members, we provide support and anchor for different community programs including talks, research, workshops, hackathons etc focused on application of AI to healthcare in Africa.