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RESEARCH INTERESTS AND ACADEMIC PURSUITS

My research interests lie in Machine Learning, Scalable Deep Learning, Deep Reinforcement Learning that can serve as an extension for sequential decision making, Robotics and Computer Vision.

EDUCATION

- **Obafemi Awolowo University** *(BSc. Mathematics)* *(April 2017 - Present)*
- **Loyola College Ibadan** *(Sept 2007 - March 2013)*

RELEVANT COURSEWORK

○ Statistics and Probability, Linear Algebra, Mathematical Modeling, Real Analysis, Complex Analysis, General Topology, Measure Theory and Integration, Normed Linear Spaces, Theory and Applications of Differential Equations(Ordinary and Partial), Computer programming(Python), Modern Physics.

PROJECTS

Image Classification: Identifying SAEON Marine Invertebrates

• I participated in Zindi Hackathon during which I built a computer vision model to recognize and classify 137 species of SAEON Marine Invertebrates, using the Python programming language and TensorFlow framework. Using the VGG16 pre-trained model (with no classifier), I performed feature extraction, data pre-processing and built a custom classifier. I obtained an accuracy of 0.98 on the training datasets.

Image Classification: Identifying roads with Potholes in South Africa

• I built a model a computer vision model to identify which roads on South Africa contains potholes using Keras framework and a pretrained DenseNet201 network.

Caputo fractional diffusion equation for an incompressible quasi-steady flow (Undergraduate thesis)

• I examined the Maxwell-Cattaneo's law of heat conduction in a purely thermally driven fluid, as an improvement to the Fourier's law. To account for non-linearities in time, I replaced the time derivative in the diffusion equation with Caputo fractional time derivative and I obtained the heat distribution in the fluid in terms of the Fox-Wright functions by solving the coupled momentum-diffusion equation using Laplace, Fourier and Mellin transforms and I was able to derive the velocity field for a quasi-steady flow analytically. This has applications in engineering to determine the temperature field of a flow on smaller time scales.

PROGRAMMING SKILLS/EXPERIENCE

- **Languages:** Python, Dart, OpenCV, LaTex, Maple, SAGEMATH.
- **Software Packages:** Microsoft Office,Visual Studio Code, Android Studio, PyCharm, Anaconda.
- **Libraries/Frameworks:** TensorFlow, Keras, PyTorch, Flutter, Django, Flask, Streamlit.

LEADERSHIP/VOLUNTEER/WORK EXPERIENCE

Blackathon *(November 2021 - Present)*

• I am currently of the organizers of Blackathon, a programming contest for blacks founded by Lelia Hampton, a PhD student in Computer Science at the Massachusetts Institute of Technology. I am leading and coordinating participants from Nigeria, and I am in charge of organizing teams and participants from all over the world.

Fundamentals of Artificial Intelligence Workshop, Ile-Ife, Nigeria *(January 2020)*

• Program Facilitator and Instructor for Fundamentals of AI Workshop for Secondary School Students in Ile-Ife, Osun State, Nigeria.

Software Developer Intern - Quicker Freight Technologies *(November 2021 - Present)*

• I am currently working as an intern in building and deploying native mobile apps(Android) using the Flutter framework and Dart programming language. I work mostly with the frontend and I have started learning the backend.

SCUDEM Mathematical Modeling Challenge *(November 2019, 2020)*

• I led a team of students to participate in an online mathematical modelling challenge where we used mathematical modelling and differential equations to solve real world problems (Moon Landing Problems, Population Dynamics, etc).

SOCIETY MEMBERSHIP

- Data Science Nigeria Campus Club (AI+ OAU)
- Black In AI
- National Association of Mathematical Science Students of Nigeria.

SCOLARSHIP, AWARDS AND HONORS

- Professor Akfuwape Prize Award for Outstanding Student (Obafemi Awolowo University) *(March 2019)*
- SCUDEM Meritorious Award (Decay of Oil Agglomerates From The Deepwater Horizon Accident). *(November 2020)*
- International Youth Math Challenge Participation Certificate
- International Astronomy and Astrophysics Challenge Participation Certificate.