Elugwu Hycienth Chibueze

Senior A.I and Machine Learning Engineer

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About

Extremely skilled and results-driven Artificial Intelligence (AI) and Machine Learning Engineer with over 4 years of experience solving real-world problems with expertise in data analysis, data science, and computer vision. Adept at building predictive models and working with large datasets to develop innovative solutions for healthcare, housing, and other industries. Demonstrated success in designing and implementing AI-driven solutions, including diagnostic tools and predictive models. Passionate about leveraging machine learning and AI technologies to solve real-world problems.

Technical Skills

- **Languages**: Python, R, SQL, MATLAB
- **Machine Learning**: Supervised & Unsupervised Learning, Regression, Classification, Clustering
- **Deep Learning**: Neural Networks, CNNs, RNNs, YOLOv5, TensorFlow, PyTorch, Keras
- **Data Science & Analytics**: Data Cleaning, EDA, Statistical Analysis, Feature Engineering
- **Computer Vision**: OpenCV, YOLO, Image Processing
- **Tools & Frameworks**: Jupyter, Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, Git, Flask, FastAPI
- **Databases**: MySQL, MongoDB
- **Cloud Platforms**: AWS, Google Cloud Platform
- **Version Control**: Git, GitHub

A.I & Machine Learning Skill Summary

As an AI and Machine Learning Engineer with a solid background in data science, I focus on building and deploying machine learning and deep learning models to tackle complex, real-world challenges. I specialize in using cutting-edge algorithms to make a positive impact in areas such as healthcare, image recognition, and predictive analytics.

Machine Learning Algorithms: Proficient in both supervised (Regression, Classification)

and unsupervised learning (Clustering, Dimensionality Reduction) to solve diverse business problems.

Deep Learning: Experience with neural networks (CNNs, RNNs) and frameworks like TensorFlow, PyTorch, and Keras to build and fine-tune models for image recognition, medical diagnostics, and other applications

Computer Vision: Skilled in using computer vision techniques, including YOLO (You Only Look Once) and OpenCV, for tasks like image classification, object detection, and medical image analysis (e.g., cancer and brain tumor detection).

AI Model Development: Adept at designing and implementing end-to-end machine learning pipelines, including data preprocessing, feature engineering, model building, training, evaluation, and deployment.

Model Optimization & Tuning: Expertise in model evaluation, hyper parameter tuning, cross-validation, and improving model performance using techniques such as grid search and random search.

Data Analysis & Preprocessing: Strong experience in exploratory data analysis (EDA), data cleaning, and preparing datasets for machine learning applications using Python libraries such as Pandas, NumPy, and Scikit-learn.

Statistical Methods: Solid understanding of statistical techniques and their application in machine learning for hypothesis testing, A/B testing, and predictive modeling.

Cloud Platforms: Experience with cloud platforms such as AWS and Google Cloud for scalable model deployment and data storage.

Big Data & Databases: Knowledgeable in handling large datasets, working with databases (SQL, MongoDB), and using tools such as Apache Spark for big data processing.

Professional Experience

Kidney Disease Diagnosis – LAN, Nigeria | UNN

Machine Learning Engineer | 2020 – Present

AI and machine learning are changing the way we diagnose kidney disease, making it possible to detect it earlier and more accurately. Today, we'll explore how these technologies can help doctors provide better care and improve patient outcomes.

. I created a framework or a plan for the machine learning model. This involves determining the type of model (e.g., a classification model like decision trees,

random forests, or neural networks), selecting the appropriate algorithms, and figuring out how the system should work

. I built and coded the model, making it functional. This would involve data preprocessing, training the model on the patient data, and tuning the model for better performance.

. A machine learning model is an algorithm that is trained on data so that it can learn patterns or relationships within the data. In this case, the goal is to predict or identify kidney diseases based on patient data

. The model is specifically designed to help detect or diagnose kidney diseases. This could involve identifying early signs of conditions like kidney failure, chronic kidney disease (CKD), or other renal disorders by analyzing patient medical data

. After the analysis, the model was well trained and evaluated, lastly we deployed the model for user interactive.

Cancer Detection from Medical Scans – Remote, USA | HealthTech

Full-Stack AI/ML engineer | 2023

. I created a smart computer program that uses deep learning to help detect cancer in medical images like X-rays, MRIs, or CT scans

. I used a machine learning algorithm called Convolutional Neural Networks (CNNs), which are a special type of computer model designed to look at pictures and recognize patterns

. CNN can analyze medical images in a fraction of the time it would take for a doctor to do it manually.

. I build an accurate model through the training dataset and evaluated the model which made it to be effective and efficient and the model was deployed using Flask.

Brain Tumor Detection with YOLOv5 – Remote, UK | HealthTech

Full-Stack AI/ML engineer | 2024

YOLOv5, this is an advanced AI model, we can quickly and accurately detect brain tumors from medical images. In this session, we'll explore how this technology helps doctors identify tumors earlier and improve patient treatment outcomes.

. I build a model to detect brain tumors, it needs to be trained on lots of images

that are labeled. These images show brain scans, with tumors highlighted so that the model can learn what to look for.

. I trained the model with 50 Epoch, YOLOv5 is able to go through a new MRI scan and spot the tumor if it's present. It marks the tumor's location on the scan with a bounding box (a rectangle around the tumor). This helps doctors easily see where the tumor is.

Housing Price – Remote, Nigeria | PropTech

Full-Stack AI/ML engineer | 2024

This model was implemented using a Machine Learning Algorithm called Linear Regression because this is a classification Algorithm which shows or estimate a linear relationship between two or multiple features and labels. The model was modified to be able predict the price of a house through Train Test Split to be able to achieve a good model and evaluate the model to be able to see that the model is performing effectively and efficiently.

More information about my Deployment and Cloud Utilization Expertize

Along the journey of my A.I and Machine Learning, I have tremendously work with cloud platforms like **AWS, Render** and **Heroku** which aid my work with cloud deployment processes and in addition I have worked with preferable technologies to ensure scalability, performance and reliability across applications which leads to my easy adaptation to new systems and workflow.

. **AWS**: A robust and scalable cloud platform with extensive services like EC2, Lambda, and SageMaker, ideal for large-scale and enterprise applications.

. **Render**: A simplified platform for deploying web applications and machine learning models with minimal setup, great for smaller projects.

. **Heroku**: A beginner-friendly PaaS that allows for quick deployment of Python apps and APIs, perfect for prototyping and small-scale applications.

My usage and experience allows me to easily make use of the A.I and Machine Learning systems with continuous project accres different companies. This proficiency made me

to become proficient with any technology cloud platform.