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Daniel Enemona Adama

Artificial Intelligence Engineer

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I am an **Artificial Intelligence Engineer** with **5+ years**. Specializing in **Computer Vision**, **NLP**, **Generative AI**, I possess strong proficiency in Python, and SQL, coupled with **3+ years** as a **Software Engineer** using **FastAPI**, **Flask**, **Django** for **Back-End development**. My expertise includes developing innovative AI solutions and effectively integrating diverse technologies for optimized performance.

Skills

Tools and Languages **AWS**, **Langchain**, **LangChain Expression Language (LCEL)**, **Agent chains with tools**, Digital Ocean, **Vector Database (Qdrant, ChromaDB)**, **RAG**, **Generative AI Meta (Llama2, 3), Mistral AI, OpenAI GPT(3 & 4), Falcon, Microsoft(Phi2, 3)**, **Fast API**, **PEFT**, **Transformers**, **HuggingFace**, **Kubernetes**, IoT Technologies (CCTV), **Runpod**, **YOLOv8**, **TypeScript**, **JavaScript**, **ASP.NET Core**, .NET Core, PostgreSQL, MongoDB, **Microsoft SQL Server**, MySQL, **Django**, **Quart**, **JavaScript**, SQLAlchemy, **MLflow**, Apache Spark (PySpark), Python, Scikit-learn, Numpy, OpenCV, GridSearchCV, Pytesseract, Matplotlib, Pyaudio, Seaborn, Deep Speech, Face recognition, ResNet50, EfficientNetB1, and MobileNet V2, Dlib, Imutils, Pandas, Imutils, Tensorflow 2, Keras, Caffe, Nltk, BeautifulSoup, C# (Entity Framework Core, ExcelDataReader), **CI/CD (Github Actions, Circleci)**, **Docker**, GitHub, Linux, Visual Studio Code, Gradient boosting algorithms, XGBoost, LightGBM, Random Forest, Decision Tree, Hyperopt, Jupyter Notebook, Heroku, **Tensorflow**, **Pytorch**, Web Scraping, HTML/Tailwind, Test (Pytest, Unittest), API Testing Tool (Postman)

Technical Skills **Good Communication Skills**, Classification (Binary and Multi-label, Multi-class), Pose estimation **(MediaPipe)**, **(Yolo Nas Pose)**, Regression(Linear/Logistic), Machine Learning Lifecycle management (MLOps), Model Deployment, Modelling and Evaluation Techniques, Data Manipulation and Analysis, **Deep Learning**, **Neural Networks**, API Development, Natural Language Processing (Sentiment Analysis), and Recommender Systems (Content-based, Collaborative Filtering), **Semi-Supervised Learning (SSL) for Data Labeling**, Software Development, Image Processing, Data Mining, Computer Vision, Speech Recognition

Communication English (native), French(basic)

Project Summary

NYC Taxi Trip Duration Sklearn, Pandas, Numpy, Seaborn, Matplotlib. Completed the New York City Taxi trip duration and achieved an **R squared of 0.9993** and a **Root mean squared error of 0.214** to predict the trip duration for your taxi driver to your location which can be Uber, Bolt etc.

https://github.com/danielAdama/NYC_taxi_trip_duration

Sales Analytics Dashboard MySQL, PowerBI. Crafted a sales dashboard , providing insights into revenue, sales quantities by market, top customers, and product performance. The dashboard offers a comprehensive overview of sales metrics, highlighting trends over time and facilitating data-driven decision-making for stakeholders.

https://github.com/danielAdama/sales-analytics-visualization

Face Recognition and Verifi -cation Web App OpenCV, Flask, AWS, HTML/CSS, Docker, JavaScript. Developed a Face Recognition and Verification Web Application enabling users to train a facial recognition model by uploading images, verify faces against trained data. Achieved seamless deployment using Docker Compose for easy setup, ensuring efficient usage. Deployed on AWS and hosted online for accessibility.

https://github.com/danielAdama/face-rec-web

Recent Work Experience

AI & BackEnd Engineer **Sep 2022 — Jun 2024**
AzimhealthAI *Lagos, Nigeria (Remote)*

- Developed and maintained an end-to-end exercise tracking system using Python and FastAPI, ensuring high performance and scalability.
- Implemented robust and secure user authentication mechanisms, enhancing user data protection and system security.
- Collected image data from videos and trained a TensorFlow model to accurately classify exercises, improving the system's recognition capabilities.
- Converted TensorFlow models to TensorFlow Lite for deployment on web browsers, optimizing models for efficient client-side execution.
- Utilized MoveNet for real-time exercise tracking and feedback, leveraging advanced computer vision techniques to improve user experience and accuracy.
- Managed cloud infrastructure on Digital Ocean (Kubernetes, Object Store, Container Registry), optimizing resource allocation and ensuring system reliability.
- Executed complex database operations with PostgreSQL, maintaining data integrity and enhancing performance through efficient query optimization.
- Collaborated closely with cross-functional teams, including frontend developers, and product manager, to continuously enhance system features and improve overall user experience.

Computer Vision Engineer & Team Lead **Sep 2023 — May 2024**
Ace Embedded Ltd *Lagos, Nigeria (Remote)*

- Spearheaded a project to annotate images.
- Developed and fine-tuned a YOLOv8-based object detection system, which was trained on an extensive dataset of over 144,000 images. This rigorous training process resulted in a highly accurate and reliable model capable of detecting various objects in real-time scenarios.
- Achieved an exceptional 96% accuracy rate in color detection by fine-tuning a VGG-16 model, enabling precise identification of colors within the visual data.
- Integrated image-to-text capabilities into the system, enabling real-time summarization of video frames to provide enhanced context understanding and improve user engagement.
- Led a diverse team of Frontend Engineers and UI/UX Designer.
- Leveraged Apache Kafka for real-time data streaming and message queuing, optimizing communication between system components and facilitating scalable deployment across diverse hardware platforms.
- Implemented serverless GPU processing using Runpod, maximizing computational efficiency and resource utilization for intensive computer vision tasks and also to saves cost.
- Documented comprehensive project processes and technical specifications, ensuring clarity, continuity, and knowledge transfer among team members.
- Conducted extensive testing and validation of object detection models across multiple YOLOv8 variants (S, N, M), ultimately selecting YOLOv8 M for final model training due to its superior performance and accuracy in object detection tasks.
- Orchestrated the setup of CCTV cameras to capture video data for model training and testing, ensuring optimal placement and configuration to cover key areas of interest.

Artificial Intelligence Engineer **March 2023 — March 2024**
Lex-ai Africa *Lagos, Nigeria (Remote)*

- Gathered and processed data for training and optimizing the Open sourced Generative AI.
- Wrapped the Large Language Model in a FastAPI framework, enhancing the system's accessibility and efficiency.
- Developed and deployed an end-to-end system utilizing a Large Language Model (LLM).
- Successfully implemented and maintained the system on AWS, ensuring scalable and robust performance.

BackEnd Engineer **Sep 2022 — Mar 2023**
Secured Records Management Solutions LTD *Lagos, Nigeria (Remote)*

- Collaborated with a team of developers to design and develop software solutions using the .NET stack, including C#, ASP.NET, and SQL Server.
- Worked closely with the team lead and senior developers to learn best practices and enhance technical skills.

Data Scientist **Oct 2021 — Sep 2022**
Selbolt *Lagos, Nigeria (Remote)*

- Responsible for building and improving prediction models with Sklearn, Pandas, TensorFlow, Gradient Boosting Algorithms, NLTK, OpenCV, etc.
- Assessed data quality and cleansed data for further processing.
- Used data-driven insights to reduce transportation costs.

Machine Learning Developer **Feb 2021 — Oct 2021**
TalenQ Pvt Ltd *Bangalore Urban, Karnataka, India (Remote)*

- Completed a real-time Face Recognition system that recognizes and tags known faces accordingly with Dlib, OpenCV, Imutils, etc.
- Researched and implemented a Speech Recognition pipeline with Deepspeech, Webrtcvad, Pyaudio, etc. for a real-time video conferencing platform.
- Developed a Face and Eye-tracking algorithm, including Face mask detection for real-time purposes with OpenCV, TensorFlow, etc.
- Utilized Deep Learning Frameworks like TensorFlow, Keras, OpenCV, Dlib, and Face recognition for Computer Vision use cases.
- Reported feedback to the team on the progress of the project.
- Worked with 3 different pre-trained models: ResNet50, EfficientNetB1, and MobileNet V2.
- Created various charts in Jupyter Notebook using Matplotlib to perform preliminary analysis on the collected data.

IoT & Computer Vision Intern **Mar 2021 — Apr 2021**
The Sparks Foundation *Singapore, Singapore (Remote)*

- Downloaded image data from Google and Kaggle for training purposes.
- Trained 2710 images on my local machine and achieved a 98 percent accuracy.
- Built a real-time Covid-19 Face Mask Detection system for detecting whether a person is wearing a mask or not.

Machine Learning Intern **Dec 2020 — Feb 2021**
CodeTrophs *New Delhi, Delhi, India (Remote)*

- Deployed Machine Learning algorithms like Naive Bayes, SVM, Random Forests, Logistic Regression, etc. on Heroku.
- Scraped data from diverse websites with Python Scrapy.
- Transformed raw data to conform to assumptions of machine learning algorithms.
- Investigated available resources to develop more useful project plans.
- Created a web application for making critical predictions.
- Carried out day-to-day duties accurately and efficiently.

Education

Bachelor of Engineering (B.E.)
Information and Communication Engineering **Aug 2015 — Jul 2021**
Grade: Second Class Upper Division
Covenant University Ota, Ogun State, Nigeria

Achievements

- Participated in the **Analytics Vidhya** JOB-A-THON competition and got a position of **454/1181 participants**.

Certifications

Complete guide to ASP.NET Core MVC (.NET 6) (Udemy)	Jan 2023
Getting started with Docker (Simplilearn)	Jan 2022
Machine Learning Certification Course (Analytics Vidhya)	Jan 2022
Neural Networks and Deep Learning (Deeplearning.ai)	Aug 2020
Data Science Course 2020 (365 Data Science)	Dec 2020
OpenCV Basics - OpenCV101 (Pyimagesearch)	May 2021
Bounding Box Regression - Object Detection 202 (Pyimagesearch)	May 2021
Fundamentals of Deep Learning Object Detection - Object Detection 201 (Pyimagesearch)	May 2021

* Referees are available on request