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Lagos, Nigeria

EDUCATION

Lagos State University — Lagos, Nigeria
- Bachelor of Science (BS) – Physics — May 2016 – May 2019

Project Topic: Detection of Road damage using Artificial Intelligence (AI) and Unmanned Aerial Vehicle (UAV) Drones.

SKILLS SUMMARY

- **Languages & Frameworks**: Python, TensorFlow, Pytorch, OpenCV, Java, Kotlin, Scikit, Yolov5, Keras, Streamlit, Detectron2
- **Tools & Platforms**: Docker, Git, TensorRT, OpenVINO, Triton, TensorFlow Serving, Linux, AWS, Apache Spark
- **Research Interests**: Object Detection & Tracking, Segmentation, Self-Supervised Learning, Bot-Building

EXPERIENCE

- **Senior Machine Learning Engineer (Contract)** — Remote
  Datyra — *Oct 2022 – May 2023*
  - Designed, developed, and deployed machine learning models and algorithms to analyze large datasets, enabling data-driven decision-making.
  - Utilized advanced statistical techniques and machine learning algorithms to build high-quality predictive models, improving customer satisfaction and business performance.
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- **AI and MLOps Engineer (Contract)** — Remote
  Qritive — *Apr 2022 – Oct 2022*
  - Working with software engineers, data scientists, and medical doctors at Qritive to design and develop next generation of Qritive's AI-powered products using the latest software engineering and computer vision technologies
  - Working on AI R&D and MLOps tasks assigned to you
  - Developing AI algorithms based on deep learning
  - Building products using image analysis techniques (e.g., with OpenCV)
  - Contributing to the full lifecycle of machine learning models

- **Team Lead – Machine Learning Engineer (Full-Time)** — Remote
  Anheuser-Busch InBev — *Nov 2020 – Feb 2022*
  - **Leadership**: Team of 14 Engineers; Set Standards: Git, Data Centric-AI, Inference Algorithms & DL Architectures.
  - **R&D**: LatentGAN Autoencoder (Publication), 2D Synthetic Data Generation from Natural Data, Improved Mosaic & GridMask Augmentation, Ticket Grading (Patent Draft), WoUtils (Proprietary Python Library: 5300 Lines).
  - **Architectures**: Real-Time inference at scale (Patent Draft, 150+ cameras, 90+ use-cases), Custom CNN Classifiers, End-to-End Data & Training Toolkit (Planning & Architecture).
  - **Server Sizing**: Deep Learning Inference Edge & Cloud Server Sizing for Hardware Configurations (CPU & GPU)

- **Machine Learning Engineer (Full-Time)** — Lagos, Nigeria
  Anheuser-Busch InBev — *Jun 2019 – Nov 2020*
  - **R&D**: Person Re-Identification for CCTV, Model Optimization & Serving with TensorRT, OpenVINO & Flask.
  - **Use-Cases**: Efficient Handwash Detection (Patent Draft), Tracking & Wait-Time Detection, Face Mask Detection.
  - **Deployments**: Edge: Nvidia Jetson Devices, Intel Systems, Raspberry Pi (Exp.); Cloud: AWS CPU & GPU Instances.

- **Founder & Machine Learning Engineer (Full-Time)** — Lagos, Nigeria
  IDPassMe — *Jan 2018 – Nov 2019*
  - Designed and implemented the high-level verification system
  - Deployed Facial Recognition model to production

- Created API endpoint for AI model
- Maintained and monitored Linux servers, EC2 Instances and K8s environments

- **Undergraduate Student Researcher (Part-time)**

  Lagos Institute of Technology, Advisor: Dr. Chetana Hegde *Jan 2018 - June 2019*

  - **Sentiment Analysis**: Applied pre-processing techniques: bag-of-words, n-gram-model & TF-IDF and experimented with Machine Learning Algorithms: Naïve Bayes, SVM, Random Forest & KNN and achieved 95.23% accuracy with SVM.
  - **Data Mining**: Experimented with Encoding Techniques: One-Hot, Binary & Huffman Encoding to identify an efficient method of storing text data (8000 words). Result: Huffman Encoding occupies 0.1% space as One-Hot Encoding.
  - **Forecasting**: Experimented with Machine Learning Algorithms: Regression & Boosting and Hyper-parameter tuning to identify the correct set of models/parameters which can accurately forecast the sales of retail stores

SELECTED PROJECTS

- **FarmEye:** Intelligent Algorithm to accurately detect real-time the number of chickens, their weight, and give visual alerts to the farm manager. Provides significant optimizations over Activity-based models and is designed for low compute environments. **Tech**: Python, OpenCV, Triton, YOLOV5 & Docker (Jul 2022 – Jul 2022) (Demo)

- **Automate Price Tag Detection:** Intelligent Algorithm to accurately detect in real-time price tag from store shelf products as seen from the CCTV. Worked on the data collection and annotation. Tech: Python, OpenCV, NumPy, AWS & S3 Storage (Jan 2022 - Jun 2022) (WebDemo)
- **AI Smart Fridge**: The idea is that the cameras can scan what's inside and let users know what items they're short on, even making meal suggestions based on the ingredients they still have. **Tech**: Python, TensorFlow, Keras, OpenCV, NumPy, Matplotlib, Streamlit (Nov 2021)
- **Automate Out-of-Shelf Monitoring**: Intelligent Algorithm to accurately detect in real-time out of stock products and give visual alerts. Worked on the data collection and annotation. Tech: Python, OpenCV, NumPy, Streamlit, AWS & Azure Storage (Jan 2021 - Jun 2022) (WebDemo)
- **AI Powered Vehicle Inspection:** I worked on a software solution that automates auto visual inspections thanks to computer vision & artificial intelligence. **Tech:** Python, Detectron2, FasterRCNN, OpenCV, Streamlit (Demo)
- **AI app for the Blind:** An AI app that uses the smartphone camera to help the Visually Impaired identify Nigerian currency using Object detection. This solution is domain specific to the Nigerian Currency. **Tech**: Python, Kotlin, TensorFlow, tflite, PascalVOC (Dec 2019) (Demo)
- **Extract Single Fingerprint:** An AI powered webapp to extract the fingerprint from a single finger Image. You can try it with one finger in the image. **Tech:** Python, Detectron2, FasterRCNN, OpenCV, Streamlit (Demo)

VOLUNTEER/TEACHING EXPERIENCE

- **Co-Founder & Resource Person of Student Club - Team Technoids**, conducted training on Python, Machine Learning, and Computer Vision impacting over 200 students. 2018 – 2019
- **Invited to Open-Source Community Africa,** to speak on an android app for the blind that I built. Feb 2020 (WebLink)