JOAN NWATU

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Research Interests

- Artificial Intelligence
- Computer Vision
- Natural Language Processing
- Image and Video Understanding

Education

University of Nigeria   **Sep. 2014 – Sep. 2019**
Bachelor of Engineering in Electronic Engineering (4.45/5.0)   *Nsukka, Enugu, Nigeria*

Relevant Coursework

- Linear Algebra
- Software Engineering
- Computer Programming
- Computational Methods
- Artificial Intelligence
- Digital Systems Design
- Solid State Electronics
- Digital Signal Processing

Experience

Xend   **November 2019 – Present**
Artificial Intelligence Engineer (R+D)   *Enugu, Nigeria*

- Proposed and developed a data analytics system for Xend merchants to extract and display insights from customer data leading to improved sales performance.
- Researched and implemented a computer vision project to solve the problem of Logo Identification using Pytorch pretrained ResNet50 and Fastai library
- Set up an ETL pipeline to facilitate the extraction and transformation of data required for a Sales Prediction project using Amazon Web Services and Spark.
- Identified the problem of data inconsistency, conceptualized an efficient solution, and deployed a data lake as a central data repository for Ogwugo Food Services using Amazon Web Services, Apache Spark and Apache Airflow.

Ugarsoft Ltd   **May 2018 – September 2019**
Machine Learning Intern   *Enugu, Nigeria*

- Gathered and organized customer data for Natural Language Processing and Recommender System projects.
- Assisted with labelling entities in customer order data for Named Entity Recognition tasks.
- Retrained the Named Entity Recognition and Intent Classification models for an e-commerce chat bot system using Rasa Stack.
- Analyzed customer data using predictive modeling and drafted reports using data visualization techniques.

Honours/Awards

1st Prize Solution Winner, 2020 Data Science Nigeria AI Commons Health and Wellbeing Hackathon
Student Scholar, 2019 Grace Hopper Celebration
Awardee, 2016 Petroleum Technology Development Fund Scholarship (PTDF-LSS)
Awardee, 2016 NNPC/Chevron JV Undergraduate Scholarship

Invited Talks

Guest Speaker: Machine Learning Bootcamp   **September 2021**
2021 UNN Engineering Career Fair — University of Nigeria   *Enugu, Nigeria*

- Delivered a lecture on 'Introduction to Artificial Intelligence and Possible Career Paths' and led Engineering students and recent graduates through a guided deep learning project practical using Fastai.

Projects

DietAI | *Award-winning solution for 2020 DSN AI Commons Health and Wellbeing Hackathon*   **September 2020**
- Collaborated with team members to design project structure for an AI powered nutrition web application for local Nigerian dishes.
- Created an image dataset of 35 classes of local Nigerian food (including a None class)
- Trained an image classifier on the Nigerian food image dataset to 78 percent accuracy. Github repository ⭘ github.com/Anniejoan/Foodscan

Logo Identification | *Image Classifier for Logos*   **April 2020**
- Trained ImageNet pretrained ResNet models on public logo datasets (Web2M, Logo 2k and Flickr 27) using google colab, then proceeded to deploy the Flickr 27 trained model which had the best accuracy on binder for public testing. ⭘ github.com/Anniejoan/logo

Technical Skills

Languages: Python, C
Big Data Tools: Apache Hadoop, Apache Hive, Apache Spark, Apache Airflow, Azure Databricks, Amazon Web Services
Machine Learning Libraries: NumPy, Pandas, Matplotlib, Seaborn, Scikit-Learn, PyTorch, NLTK, SpaCy, FastAI
Databases: SQL, NoSQL
Analysis and Analytics Software: MATLAB, Tableau, PowerBI

Leadership / Extracurricular Activities

Nigerian Society Of Engineers (UNN Chapter)   **December 2016 – December 2017**
Vice-President   *University of Nigeria*
- Planned and organized a successful Mechatronics workshop/seminar for UNN engineering students.
- Worked with the team of NSE executives to promote and sustain a seasoned engineering undergraduate experience for students.

NUESA House of Representatives   **Oct 2015 – June 2016**
Honorable Member   *UNN Electronic Engineering Constituency*
- Participated in important decision making, bill approvals and dissemination of relevant information to the students
- Represented the interest of my constituency and conveyed the complaints of the students to higher authorities.

UNN Choir   **May 2015 – March 2018**
Chorister   *University of Nigeria*
- Sang church renditions and hymns during masses and church festivities
- Participated in inter-choir music competitions

Academic and Professional Memberships

NSE Nigerian Society of Engineers
NUESA Nigerian University of Engineering Students Association
APWEN The Association of Professional Women Engineers in Nigeria
AnitaB.org Local Community - Africa
YaaW. Yielding Accomplished African Women — Women in Machine Learning