# **BUSAYO AWOBADE**

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#### RESEARCH INTEREST

Research Engineer with over 3+ years of experience in cutting-edge research and algorithm development to tackle real-world challenges. My research interests encompass low-resource NLP, speech processing, efficient machine learning, and multilinguality. I am seeking opportunities to engage in impactful research that addresses complex problems and advances the state and adoption of AI, particularly in low-resource communities worldwide.

#### **EDUCATION**

Bachelor of Science in Computer Science, Federal University of Agriculture, Abeokuta 2017 - 2023 Deeplearning.ai: Neural Networks and Deep Learning, Structuring Machine Learning Projects, Convolutional Neural Networks, Sequence Models;

## **PUBLICATIONS**

- Busayo Awobade, ..., Tobi Olatunji. AfriVox: Probing Multilingual and Accent Robustness of Speech LLMs. Under review @ ACL ARR 2025.
- Chris Emezue, NaijaVoices Community, Busayo Awobade, et al. The NaijaVoices Dataset: Cultivating Large-Scale, High-Quality, Culturally-Rich Speech Data for African Languages. InterSpeech 2025.
- Mardiyyah Oduwole, ..., **Busayo Awobade**, et al. The Role of Data Augmentation in African Machine Translation.
- Busayo Awobade, Mardiyyah Oduwole, Steven Kolawole. What Happens When Small Is Made Smaller? Exploring the Impact of Compression on Small Data Pretrained Language Models. *AfricaNLP 2024*.

#### **EXPERIENCE**

### Machine Learning Research | Intron

Nov. 2024 - Present

- Building a multilingual speech-recognition model covering 20 African languages with full parallel translation among them.
- Built a multilingual speech-recognition model covering 10 African languages for (X–X) transcription and (X–english) translation.
- Developed a **production pipeline for AfroTTS**, a multispeaker, African-accented TTS system supporting 40 african accents.
- Designed and executed a benchmarking framework to evaluate multimodal and unimodal ASR models on African languages, including language-agnostic post-processing.
- Created the Afrivox Benchmark—a comprehensive ASR & AST evaluation suite for 20 African languages.

#### Machine Learning Research | Babs

Jan. 2024 - Jun. 2024

- Trained and evaluated **TTS models** for 3 African languages (**Yoruba, Swahili, and Hausa**) using the **VITS architecture** on publicly available African speech corpus.
- Extended Meta's MMS model to produce better natural sounding Yoruba and Hausa speech using the common voice aligned corpus.
- Led the research on **speech-to-speech translation with expressivity transfer** which followed Meta's Seamless Expressivity work.

• Built a cascaded speech-to-speech translation system using ASR (whisper), TTT (m2m100) and expressive TTS model, Bark.

## Machine Learning Researcher | MLCollective

Nov 2023 - Present

- Leading the research team for the local chapter (Nigeria); Helping young research enthusiast find their footing in ML research.
- Moderating talk sessions, meetups, presentations, and webinars on NLP.

### Founding Machine Learning Engineer | ASAlytics (now NazariAI)

Mar. 2022 - Dec. 2022

- Awarded \$115k grant in funding from the Algorand Foundation to build the ASAlytics platform;
- Set up CI/CD pipeline for model and application server using GCP cloud build and GCP cloud run.

### Data Science, Intern | Zummit Info Labs

June. 2021 - Oct. 2021

- Built an object detection model to detect and classify road traffic signs using a **yolo** model coupled with a deep learning classifier to correctly classify detected traffic signs according to their respective classes for autonomous vehicles.
- Trained a race detection model for a machine learning system that detects racial profiling and racial bias amongst airport security using Google's **FaceNet** to generate face embeddings passed into a **Lightgbm** classifier.
- Used Dlib, Mtcnn, OpenCV to build face detection and recognition system for vehicle security.

### PROJECTS & AWARDS

### Algorand Foundation Grant Award - Algorand Foundation

• Awarded \$115k to build an opinion mining platform for the algorand ecosystem. (2022)

## Best Poster Awards - Deep Learning Indaba

• Won best poster awards at the 2023 Deep Learning Indaba for What happens when small is made smaller?.

### **Omdena Communities**

- Led the machine learning team for the Columbia community to build a multilingual **bertTopic** model for both Spanish and English topic generation on tweets/reddit posts to monitor the 2021 Columbia nationwide project. (2021)
- Using Yolo-v5, docker and AmazonEC2; built a machine learning solution to speed up (2x) tea-leaf processing for the Sri-Lanka Tea industry. (2021)

#### DSN Data Science Hackathon - Data Scientist Network

• Finished 1st placed runner-up amongst 750 skilled Data scientist at the DSN nationwide hackathon. (2020)

### UmojaHack Africa - Umoja, Kenya

• Led my university to a 3rd runner-up finish as the 4th best AI university in Nigeria in 2021.

#### AXA Nigeria 2020 Hackathon - AXA Mansard

• Led my university to a **5th place finish** at the AXA-Mansard Insurance claim hackathon. (2020)

## **VOLUNTEER ACTIVITIES**

- Peer Reviewer AfricaNLP@ICLR '24, EMNLP '23, TinyPapers@ICLR '23.
- Co-organizer: Masakhane's EfficientNLP workshop at Deep Learning Indaba 2023.
- Co-Lead and Mentor at MLCollective's Nigeria local chapter.
- Ex-lead for the AI community at Federal University of Agriculture, Abeokuta;