Sewade **Ogun**

AI/ML Researcher · Data Scientist

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Summary

Currently finishing my PhD. at INRIA, France, where I have been working on developing text-to-speech (TTS) and automatic speech recognition (ASR) technologies. 7+ experience working in data science and machine learning. Interested in research and engineering positions.

Work Experience

INRIA
Nancy, France

PhD Student — *Oct. 2021 - Oct. 2024*

- Developed a method to curate a high-quality TTS dataset from large, noisy, crowdsourced ASR datasets like Common Voice.
- Developed a generative flow-based TTS system that can synthesize natural and high-quality TTS utterances.
- Applied the TTS model for generating diverse TTS data for ASR data augmentation. Trained several ASR models like Conformer and wav2vec for this experimental study.
- Taught the speech corpus course in the NLP masters at the University of Lorraine.

African Institute for Mathematical Sciences
Mbour, Senegal

Research and Teaching Assistant — *Oct. 2020 - Oct. 2021*

- Worked on an ASR research project to learn speech representations for African languages (Kinyarwanda and Kabyle) using weakly-supervised and self-supervised learning,
- Taught various machine learning tutorials and coding sessions for the African masters in machine intelligence (AMMI) program.

Ubenwa
Canada (Remote)

Machine Learning Research Engineer — *Mar. 2021 - August. 2021*

- Curated dataset of baby cry sounds and other sounds for asphyxia and cry activity detection.
- Developed a highly accurate baby cry activity detection (CAD) model using ResNet architecture for detecting and segmenting baby cry signals in audio.
- Deployed the CAD model on GCP and AWS infrastructure for real-time access utilizing Docker container and several AWS/GCP stack (Including EC2, S3).

Proto
Waterloo, Canada (Remote)

Natural Language Processing Engineer — *Aug. 2014 - Apr. 2016*

- Implemented a conversational AI chatbot to make COVID-19 information easily accessible in Nigeria.
- Worked on text annotation and translation for Nigerian languages (Yoruba and Pidgin languages).

Flour Mills of Nigeria Plc
Lagos, Nigeria

Predictive Maintenance Engineer and other roles — *Apr. 2017 - Oct. 2019*

- Gathered and analyzed daily machine data (temperature, air pressure, uptime, volume) for determining machine running mode and predicting time for maintenance.
- Identified faults in machines through routine monitoring of regular working pattern of machines (aka anomaly detection).
- Performed end-to-end tracing/tracking and analysis of raw materials from supply point to storage, production, and finally, distribution to identify sources of wastage in the supply chain. This involved data analysis to track material usage, production capacity, and wastage.

Education

University of Lorraine
Nancy, France

PhD. in Computer Science — *Oct. 2021 - Sept. 2024*

- Thesis title: Generating diverse synthetic data for ASR training data augmentation
- Thesis supervisors: Emmanuel Vincent and Vincent Colotte

African Institute for Mathematical Sciences (AIMS)
Greater Accra, Ghana

Masters in Mathematical Science (Machine Intelligence option) — *Oct. 2019 - Oct. 2020*

- Courses included: Foundations of Machine Learning, Mathematics for Machine Learning, Natural Language Processing, Computer Vision, Speech Recognition, Gaussian Processes, Tensor Networks, Kernel Methods, and Reinforcement Learning.
- Grade: Distinction

University of Lagos
Lagos, Nigeria

Masters in Electrical and Electronic Engineering (Power Engineering Option) — *2017 - 2019*

- Grade: Distinction

Ladoke Akintola University of Technology *Ogbomoso, Nigeria*
Bachelor of Technology in Electronic and Electrical Engineering (Communications Option) *2007 - 2012*

- Grade: First Class Honours

Publications

- **S. Ogun**, A. Owodunni, T. Olatunji, E. Alese, B. Oladimeji, T. Afonja, K. Olaleye, N. Etori, T. Adewumi. 1000 African Voices: Advancing inclusive multi-speaker multi-accent speech synthesis. In Proc. Interspeech 2024. 2024.
- T. Afonja, T. Olatunji, **S. Ogun**, N. Etori, A. Owodunni, M. Yekini. Performant ASR models for medical entities in accented speech. In Proc. Interspeech 2024. 2024.
- G. Coiffier, **S. Ogun**, L. Valque, P. Trivedi. Think before loading (State of the art), 2024, 978-2-9591975-0-5
- **S. Ogun**, V. Colotte, and E. Vincent. Stochastic pitch prediction improves the diversity and naturalness of speech in Glow-TTS. In Proc. Interspeech, 2023, pp. 4878–4882.
- **S. Ogun**, V. Colotte, and E. Vincent. Can we use Common Voice to train a multi-speaker TTS system? In Proc. SLT. IEEE, 2023. pp. 900-905.

Blog Articles

Artciles available at https://ogunlao.github.io/archive/index.html

- Making Efficient Neural Networks.
- From GRU to Transformer.
- You Don't Really Know Softmax.
- Cross Validation and Reproducibility in Neural Network Training.

Technical Skills

- Programming Languages: Python, Javascript, Pytorch, Tensorflow.
- Data Science: SQL, Databases (PostgreSQL & MySQL), Microsoft Excel & PowerBI.
- Research: Research paper writing, documentation, distributed model training, model development.
- Spoken Languages: English & Yoruba (Native), Pidgin (Bi-lingual), French (Upper Intermediate), Spanish (Lower Intermediate)

Certifications

- Data Engineering with Google Cloud - 2020
- Deep Learning Specialization - 2019
- IBM Data Science Professional Certificate - 2019
- Oracle Database SQL Administration - 2014

Honors & Awards

2019	**Recipient,** Scholarship for the African masters in machine intelligence program by Facebook and Google	*Ghana*
2012	**2nd Overall,** Best Graduating Student, Bachelors Degree	*Nigeria*
2009-2011	**Recipient,** MTN Foundation Science and Technology Scholarship (Bachelors Degree)	*Nigeria*
2006	**1st Place,** Lagos State Mathematics Olympiad	*Lagos, Nigeria*
2004	**Bronze Prize,** National Junior Science Olympiad	*Abuja, Nigeria*

AI Research Groups

- Biomedical Research in Artificial Intelligence and Machine Perception (Bio-RAMP) Group
- Masakhane NLP Research Group
- Black in AI