Sewade **Ogun**

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Summary

Ph.D from INRIA, France. I am broadly interested in applied AI research in natural language processing including large language models for text and speech.

Work Experience

INRIA *Nancy, France*

Ph.D Student *Oct. 2021 - Sept. 2024*

- Developed generative-model-based models for text-to-speech (TTS) and voice conversion (VC) to increase the diversity of generated utterances.
- Developed ASR systems to combine real data and synthetic data for ASR training considering the distributional gap between real and synthetic data.
- Worked on the vocal assistant project within INRIA to integrate TTS, LLMs, and ASR within the application.

African Institute for Mathematical Sciences *Mbour, Senegal*

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

- Developed ASR models for learning speech representations for African languages in the weakly-supervised setting,

Ubenwa *Canada (Remote)*

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

- Developed and deployed an accurate baby cry activity detection (CAD) model for detecting and segmenting infant cry signals in audio.
- Developed AI model for detecting asphyxia from infant cry.

Proto *Canada (Remote)*

NLP Engineer *Feb. 2020 - Nov. 2020*

- Built Conversational AI systems (aka chatbots) that were integrated seamlessly with mobile-driven Question and Answering (Q&A) APIs
- Conducted text annotation and translation for Nigerian languages (Yoruba and Nigerian Pidgin).

Flour Mills of Nigeria Plc *Lagos, Nigeria*

Predictive Analyst *Apr. 2017 - Oct. 2019*

- Created visualization and analytics dashboards sourced from the factory production and logistics database to deliver actionable insights for informed decision-making.
- Conducted comprehensive data analysis to identify areas of opportunity and friction within FMN market operations, providing data-driven recommendations for optimizing operations.

Education

University of Lorraine *Nancy, France*

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

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

African Institute for Mathematical Sciences (AIMS) *Ghana*

Masters in Mathematical Sciences (Machine Intelligence Specialization) *Oct. 2019 - Oct. 2020*

- Thesis: Towards a weakly-supervised learning paradigm for speech recognition
- Thesis supervisors: Moustapha Cisse and Yossi Adi
- Relevant Coursework: Foundations of Machine Learning, Mathematics for Machine Learning, Natural Language Processing, Computer Vision, Speech Recognition, and Reinforcement Learning.
- Grade: Distinction

University of Lagos *Lagos, Nigeria*

Masters in Electrical and Electronic Engineering *2017 - 2019*

- Grade: Distinction

Ladoke Akintola University of Technology *Ogbomoso, Nigeria*

Bachelor of Technology in Electronic and Electrical Engineering *2007 - 2012*

- Grade: First Class Honours

Technical Skills

- Programming Languages and Libraries: Python, Javascript, NumPy, PyTorch, Tensorflow.
- Data Science: SQL, Databases (PostgreSQL & MySQL), Microsoft Excel & PowerBI.
- Research: Research article writing, documentation, distributed computing, AI model development.
- Spoken Languages: English (Native), French (Fluent), Spanish (Intermediate).

Publications

Published articles

- **S. Ogun**. Generating diverse synthetic data for ASR training data augmentation. PhD thesis, University of Lorraine, 2024. 2024.
- **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.
- A. Ndoye, **S. Ogun**, Y. Adi, and M. Cisse. Towards a weakly-supervised learning paradigm for speech recognition. Masters thesis.

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.

Certifications

2020 **Data Engineering with Google Cloud**, Google
2019 **Deep Learning Specialization**, deeplearning.ai
2019 **IBM Data Science Professional Certificate**, IBM
2014 **Oracle Database SQL Administration**, Oracle University

Honors & Awards

2019 **Recipient**, Scholarship for the African masters in machine intelligence program by Meta and Google *Ghana*
2012 **1st Overall**, Best Graduating Student, Communications Option, at undergraduate level *Nigeria*
2009-2011 **2x Recipient**, MTN Foundation Science and Technology Scholarship for Bachelors Degree *Nigeria*
2006 **1st Place**, Lagos State Mathematics Olympiad *Lagos, Nigeria*
2004 **Bronze Medal**, National Junior Science Olympiad *Abuja, Nigeria*

AI Research Groups

- Masakhane NLP Research Group: NLP research on low-resource languages
- Biomedical Research in Artificial Intelligence and Machine Perception (Bio-RAMP) Group: NLP and speech research for medical applications.