Ndivhuwo Nyase

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EDUCATION

Tilburg University — **Tilburg, Netherlands**
Bachelor of Science in Cognitive Science and Artificial Intelligence — September 2019 - July 2022
Relevant Coursework: Data Structures and Algorithms, Machine/Deep Learning, Software Engineering

Eindhoven University of Technology — **Eindhoven, Netherlands**
Minor: Data Science — September 2021 - February 2022
Relevant Coursework: Data Management for Data Analytics, Business Analytics, Business Insight

Moscow Institute of Physics and Technology — **Moscow, Russia**
Bachelor of Science in Applied Mathematics and Computer Science — September 2018- July 2019

WORK EXPERIENCE

Reef Support — **Delft, Netherlands**
AI Software Engineer Intern — September 2021- January 2022

- Responsible for leading the startup team in developing and deploying a multi-model image classification web application for the classification and identification of different marine organisms on the sea floor.
- Performed image preprocessing, data augmentation and converted 50K images to 1M images according to points of interest.
- Achieved an accuracy of 83% in classifying 60+ different marine organisms. e.g algae, soft coral, sea sponges.
- Integrated Azure and Flask for the deployment of the web application as part of marine software for coastal businesses. The web application is used for the classification of marine life and coral coverage estimation on images for different coastal regions.
- Additional tasks include EDA, prototyping various models, and creating and managing the cloud image database on Azure.

Tilburg Schools of Humanities and Digital Science — **Tilburg, Netherlands**
Educational Advisory Committee Member — August 2021- November 2021

- Responsible for providing recommendations, measuring, and monitoring the quality of education in the AI faculty.
- Acting as the main focal point of communication between the lecturers, program directors, student bodies, and students.

PROJECTS

Comparing Machine Learning Models in Music Composition | Python, Tensorflow, Sequence and Generative modeling

- Implemented and evaluated an LSTM and a GAN model in music composition for the purpose of comparing recurrent networks against deep generative networks and proposing new evaluation metrics for audio synthesis.
- Preprocessed, cleaned, and parsed the MIDI music files into a useable data format that was used by the models.
- Proposed a new robust evaluation framework for deep learning music models using a combination of methods from computational music theory and music-key correlation analysis as evaluation remains a research problem due to the reliability, and validity of the results. Received the 2nd highest grade for the bachelor thesis in my cohort.

Real Estate Chatbot Webapp | Python, FastAPI, AWS, SQLite, HTML/CSS,

- Developed a chatbot web app using AWS which communicates, responds (in multiple languages), and queries appropriate search results for housing based on the users' requests.
- Implemented a text generative transformer (DialoGPT2) and used FastAPI to handle the connection between Rasa, Google Translate API, and SQLite. The Housing results were retrieved through web scraping into an SQLite database.

Sentiment and Text Analysis Webapp | Python, Flask, HTML/CSS, Bootstrap, spaCy, Heroku Cloud Platform

- Built and deployed a web app that uses NLP to display the sentiment of a user's input text and identify linguistic properties of the user's text.
- Implemented a transformer to calculate the sentiment of the text, and used Flask and Heroku to design and deploy the app.

Electroencephalogram Data Analysis | Python, Signal Processing, Time-series analysis, Pandas, Numpy, SciPy

- Analyzed an electroencephalogram (EEG) dataset to compare syntax ambiguity with native and late adopters of a language.
- Preprocessed, cleaned, and standardized the raw electrical EEG data by setting up a usable time-series data structure.
- Performed an EDA, Fourier time-frequency analysis, and a signal power-spectrum to compare and monitor distinct brain frequencies, thus determining that the brain shows more activity when processing syntax errors for late adopters.

TECHNICAL SKILLS

Languages and Databases: Python, R, C++, HTML/CSS, MS SQL
Frameworks and Technologies: TensorFlow, PyTorch, Keras, Flask, Heroku, Azure, Tableau, Bootstrap, Git, Docker