# Moses Makola

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### **EDUCATION**

#### UNIVERSITY OF LEEDS

2025-2027

MSc Data Science (Statistics)

### **QUEEN MARY'S UNIVERSITY OF LONDON**

2021-2024

**BSc Computing** 

## PROFESSIONAL EXPERIENCE

### GLOBAL PURPOSE ENTERPRISE

London, UK

## **Junior Software Engineer**

May 2024 - Dec 2024

- Participated in the engineering of a robust "Tinder" like mentorship application using React Native and Firebase earning numerous corporate sponsorships.
- Developed and integrated a matching algorithm that improved user experience by creating more relevant matches.
- Built an admin panel for sponsors where they can access data insights, analytics and feedback for the mentorship calls on the app. Built using React, Tailwind and NodeJs.

### J.P MORGAN CHASE & CO.

London, UK

## **Software Engineer Intern**

Jun 2023 - Aug 2023

- Collaborated with cross-functional teams to design and prototype a FIX RFQ (time-series) message handler successfully replacing the previous system and improving trading efficiency and request processing.
- Presented the project proposal to the global team, demonstrating strong communication skills to ensure alignment across team members.
- Spearheaded the development of an improved manual submission system for prices by processing submissions from SharePoint, enhancing data accuracy and streamlining workflows for improved efficiency.

#### **PROJECTS**

# **Synthetic Voice Translation for Low-Resource Languages**

Mar 2025

- Engineered an a speech translation system to generate synthetic voices for underrepresented languages
- Fine-tuned the VITS OpenBible model on specific language corpora, enhancing pronunciation and speech clariy
- Implemented Speech-to-Text, Machine Translation and Text-to-Speech pipelines to automate voice translation
- Presented project findings at Tech Show London's Big Data & AI World 2025

## Automatic Speech Recognition for Low-Resource Languages [Google Colab]

**Dec 2024** 

- Fine-tuned XLSR-53 on the Lingala Read Speech Corpus, achieving a Word Error Rate (WER) of 0.21.
- Preprocessed audio data by standardising sampling rates, creating vocabulary files, and mapping text transcriptions.
- Implemented custom data collators for dynamic padding and efficient batch processing.
- Presented the project to 100+ attendees at the UKBlackTech Christmas Social, demonstrating its value for underrepresented linguistic communities.

## Sickle Cell CNN Classifier [Kaggle]

Nov 2024

- Developed a Convolutional Neural Network (CNN) model using PyTorch to classify blood samples as sickle cell positive or negative with 97.65% validation accuracy and 95.51% test accuracy.
- Addressed class imbalance using weighted loss functions and conducted PCA analysis to explore feature separability.
- Cited in An Image-based Sickle Cell Detection Method (<u>TechRxiv</u>) by dataset creator for contributions to methodology and dataset application.

## ADDITIONAL INFORMATION

- Languages/Libraries: Python (pandas, Scikit-learn, PyTorch, NumPy, Matplotlib), SQL, R, FastAPI, Streamlit
- Frameworks/Technologies: AWS, Tableau, Git, Postman, Github Actions