# Problem statement.

The advancement of technology has paved a way to artificial intelligence and machine learning being a subset of artificial intelligence. This advancement has led to the development of tools that assist humans with different tasks such as transcribing and translation, with ease, accuracy and fast execution.

Focusing on transcribing, Artificial intelligence has enabled people in need of this service to finally be able to acquire the resources and services at a much cheaper price and with faster execution a lot of time is saved. Transcription tools are available in multiple languages, even Swahili, but with the Swahili language there is a low accuracy of the AI model that transcribes speech into the Swahili language.

We have realized that artificial intelligence models, the natural language processing field struggles with accents even with the English language and so the AI model lacks a bit of accuracy due to accents, then the Swahili language also has multiple accents that vary with the indigenous people within Tanzania.

With the Swahili transcription tool, we will have the first transcription tool built by Tanzanians and with the implementation of speech recognition optimization a normal Swahili accent will be used as a benchmark for the rest of accents to fall through, thus increasing the accuracy of this tool far greater than the ones built by Swahili scholars abroad who are not well acquainted with the Swahili language than the indigenous people of Tanzania where Swahili is largely used compared to other parts of the world.

# Objectives.

## Main objectives;

- To create a Swahili transcription tool using machine learning and artificial intelligence. The tool will help to speed up transcription activities while minimizing the costs of the services and also rendering words with high levels of accuracy.

### Specific Objectives;

1. Creating an acoustic transcription tool using machine learning and artificial intelligence.
2. Improving the accuracy of transcription of the Swahili language, since the tool is created by Swahili people from Tanzania.
3. Simplifying the work of transcription by increasing the level of accuracy of the tool via speech recognition optimization.
4. Creating a special tool that will be used for Swahili language speech recognition, voice processing for transcription to text format.
5. Creating the tool that is going to be familiar with the Swahili language, and understanding the Swahili words more accurately and clearly compared to the already existing tools.