

Swahili Transcription Tool.

Final Year Project.

Proposal.

INTRODUCTION.

- The Idea for our Project is creating a *Swahili transcription tool* using machine learning.
- Machine learning which is subset of A.I. we are going to use it for training the **natural language processing** algorithm to create the most accurate model suitable for transcription injected into a web application, thus making an **Acoustic model**.

Problem Statement

- Swahili transcription has been implemented by multiple transcription platforms around the world except TANZANIA, which is the home land for Kiswahili as a Language.
- **Under Resourced Language** being a factor for low-levels of accuracy in transcribing Swahili Speech into the Swahili text. This is a problem that has led to under development of the Swahili Transcription tool.

Project Objectives.

- **Main Objective.**

- ✓ Creating a Swahili transcription tool using machine learning.

- **Specific Objectives.**

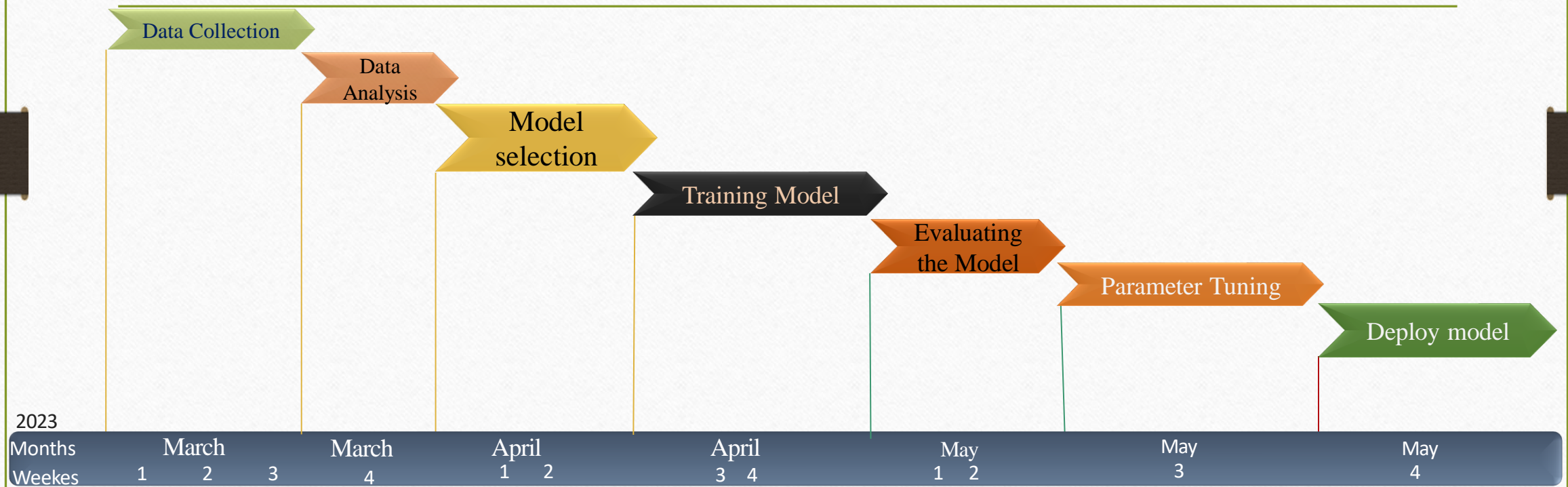
- ✓ To create a Swahili words dataset for transcription.
- ✓ To create a Swahili transcription model using natural language processing algorithm
- ✓ To Implement the model using web-based system (Acoustic Model).

Project Methodology.

The method or approach towards the project is the normal machine learning steps.

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- Step 1: Collecting the Data.
 - The data we are going to use is from online sources. A data set full of audio files and text files.
 - Step 2: Preparation of the data.
 - Viewing the data, analyzing the data, seeing the anomalies of the data set and sorting out any contingencies, thus creating a foundation.
 - Step 3: Selecting the best **model** for training.
 - Batch Streaming & Streaming transcription models.
 - Step 4: Training the Model.
 - Step 5: Evaluating the Model.
 - Step 6: Parameter Tuning.
 - This is the part for speech recognition optimization, the tool will be able to detect different Swahili accents. This will increase the accuracy.
 - Step 7: Deploy model to the web application

Project Timeline



Financial Plan for the project.

- The Project is founded under open source technologies and online cites that contain most of the data, knowledge and tools we require for the project.
- There is no extra hardware to be purchased for the project implementation. Tools such as mics and speakers which are the input and output hardware tools needed respectively.

Beneficiaries.

- The users of this tool being. Artists, Writers, News Reporters, Professional transcribers and foreigners, people in meetings and more.
- All of these are expected to benefit from this Project's output.