

## **Data Collection**

We collected data using GitHub pre-built project links and Kaggle. The dataset includes sign letters from Alif to Yeh. The specific link is <https://www.kaggle.com/code/kerneler/starter-pakistan-sign-language-dataset-c872f78a-1>

## **Idea**

Our idea is to create an application to convert sign language to audio using different converters. It will first convert sign language to text and then to audio.

## **Target Audience**

Our target audience includes companies like KFC, McDonald's, and other stores in Pakistan that may benefit from this application.

## **Work Done So Far**

We have collected datasets from various resources and analyzed potential solutions to address key problems. Additionally, we have identified the problems and their possible solutions.

## **Problems Faced and Their Possible Solutions**

1. What type of language should be chosen for sign language? Solution: We chose Urdu.
2. In which text should it be converted? Solution: We chose Urdu text.
3. Which audio should be produced? Still undecided.
4. How many converters do we need? Currently under investigation.
5. Which converters should we use for image-to-text and text-to-speech conversion? Still evaluating options.

## **Team Contribution**

Our team consists of two members. We consulted professors for guidance, collected datasets, and created a repository. While working on the project, we faced several challenges and their possible solutions.

## **Future Work**

1. Finalize the audio format and language for output.
2. Select and optimize converters for both image-to-text and text-to-speech conversion.
3. Improve the application's architecture to ensure efficiency and scalability.

## **Improvements Made in Model Architectures**

We are currently exploring ways to optimize memory usage and processing power. Although a readymade model was used initially, we are working on improving it.