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# **Sri Lankan Sign Language Detection System using Google Teachable Machine**

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## **Abstract**

A Language is a way of communicating thought between two parties. Effective communication exists when both parties actively engage in the session and respond. Just like speech and text that we use to communicate, sign language is also a method used by the deaf and mute community all over the world to communicate with each other and with other normal people. Not all of us are aware of sign language and we do require a translation. As Sri Lanka is still known as a developing country, most people don't have a clear understanding of the sign language system which is used locally. Therefore, many ordinary people are refusing to communicate with disabled people. Only the people who engage with these communities are willing to learn sign language. There are some basic translator systems that are used to translate sign language into normal vocal language. But there are no robust interpreters available in Sri Lanka and most of them lack real-time translation. The cost of the existing systems are high, and the quantity is not enough for a wide communication system.

Through this report, we are proposing a solution to develop a translation system with a low-resolution camera, which should be able to convert Sri Lankan sign language into English and vice-versa in real-time. The research is divided into four major components. The first component does the data acquisition and feature extraction part. Then it moves to the translation part where extracted images are changed into letters. The third component will do the text and voice assistant part and the final component will convert the texts into sign images. Our main goal is to achieve a system that can perform in real-time. With the advancement of image processing and machine learning, we think we can attain our goal.

**Keywords:** Sign Language, Teachable Machine, Machine Learning, Hyperparameter Tuning