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Sinhala Speech to Sri Lankan Sign Language Translation System

Final Project Report

A dissertation by

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Abstract

Communication is a fundamental human requirement and the language acts as the means for communication. The majority of individuals have the capacity to listen and talk, and they communicate in a variety of languages. Sign language is used by those who are hard of hearing to communicate. Sri Lankan Sign Language (SSL) is the deaf community's primary mode of communication in Sri Lanka. At the moment, human Sri Lankan Sign Language interpreters are necessary to enable communication between Ordinary and hearing impaired people. however, they are not always accessible, which implies that communication between Ordinary and hearing impaired people may be hampered or non-existent in certain situations. When faced with this circumstance, a system that accepts Sinhala speech recognition and generates Sri Lankan Sign Language as an output would be quite beneficial.

As section of this research, the author investigates the difficulties that hearing impaired persons confront in regular life while dealing with ordinary people. This research investigates the use of voice recognition and a system to translate Sinhala speech to Sri Lankan Sign Language. A few procedures as part of the project, is carried out. First, interviews with specialists were held in order to have a better understanding of the topic. Second, based on a study of the Literature review. it is identified if any comparable or existing work has previously been done. The third step is the development of a prototype.

According to the author, there is a significant communication gap between the ordinary and hearing impaired community in Sri Lanka. In large part, this is due to the unavailability of a system capable of converting Sinhala voice into Sri Lankan sign language with great precision. The author discovered that work has already begun on the Sri Lankan sign language to text conversion, but that there has been no progress on the other direction. As part of this study, the author developed a system that could translate Sinhala voice to Sri Lankan sign language. This system accepts audio as input, then translates the audio recorded message into text, and then displays the prepared Sri Lankan Sign Language images. So with this system, the communication between ordinary and hearing impaired persons gets easier.

Keywords: Sri Lankan Sign Language(SSL), Sign Language, Natural Language Processing(NLP), Text Preprocessing, Speech Recognition, Deaf Community