AUDIO ASSISTED TAMIL SUBTITLE AND CAPTION GENERATION FOR SINHALA VIDEOS

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Abstract

Language is a major issue faced when two or more individuals who speak different languages and cannot understand each other's language try to communicate with one another. Subtitles can help individuals to understand target language video. The major limitation in existing platforms is that many of the platforms do not provide subtitles for low resource target languages and the platforms which provide low resource language subtitles have poor accuracy.

Subtitle generation system for low resource languages is proposed which will be helpful for many individuals. This system takes Sinhala video as input and generates Tamil subtitles as the output. The users will be able to view the video with synchronous subtitles. To overcome the accuracy concern the author uses a transfer learning approach on pre-trained transformer model to generate subtitles.

The system obtained accurate results with a CER of 0.2 for the speech recognition system. This output result is fed to google translation library to convert the Sinhala text to Tamil text. It was possible to obtain accurate output with google translation library. This text is then displayed in front-end of the mobile application as subtitles.

Keywords- Subtitles, Captions, Speech Recognition, Machine Translation, Machine learning, AI model.

Subject Descriptors

Computing methodologies → Artificial intelligence → Natural language processing →Speech recognition

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