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Intelligent Approach for English and Sinhala Text to Speech using ANN

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Abstract

Speech is the most effective communication media to transfer information among ourselves in our day to day lifecycle. Unfortunately, some people lose the ability to converse by producing a huge undesirable psychological impact. The primary level inspirations are to facilitate those users with an approachable vocal interface with the computer and to accept people with convinced handicaps (such as visually impaired) to use the computer. The growth and the demand in mobile and other automated based services have made speech synthesis widespread in speech technology.

The text to speech synthesis has become a popular resolution because of the capability of using oral speech. Text to speech synthesizer convert the typed text into voice automatically when the right instructions were given. Serenity and fluency are the most important qualities which expect from a TTS system. Since most of TTS systems are proceeding with English language, it is subtle to find systems which fulfill those qualities for Sinhala language. However, visually impeded group in Sri Lanka is managing numerous troubles when communicating with computers since an appropriate device isn't accessible for advantageous utilize. As a proper answer for this issue, this project proposes a powerful tool for Text-To-Speech change conversion discourse in native language.

This project focuses on building a novel model which is based on Deep voice, an attention based, fully convolutional neural TTS system. It accomplishes the goal of generating speech sound like an actual person. Existing approaches, the evaluations of the variant domain experts have been carried out in an efficient manner. The test results with varying combinations, analysis, design, implementation and documentation proven the solution resourcefully.

Subject Descriptors:

    attention based

    fully convolutional

Keywords:

Sinhala text-to-speech, Speech synthesis, Natural language processing, ANN, CNN