Efficient Portable Camera Based Text to Speech Converter for Blind Person

Publisher: IEEE

Trupti Shah ; Sangeeta Parshionikar All Authors

Abstract: Text Reader for Blind Person using camera module ensuring portability is the prototype made using the Raspberry Pi 3b and Python to read the text from the handheld object... **View more**

Metadata

Abstract:
Text Reader for Blind Person using camera module ensuring portability is the prototype made using the Raspberry Pi 3b and Python to read the text from the handheld objects of the blind person. This paper proposes a better approach for text localization and extraction for detection of text areas in the images. The text size is an important factor whose dimension should be properly elected to make the method more general and insensitive to various font shapes and sizes. The proposed method involves four steps detection of an object, localization of the text, extraction of the text and text to speech conversion. The Region of Interest is extracted from the cluttered background and then the text localization algorithm is applied to locate and extract the text. After extracting the text from the ROI, it is converted it into speech. It works more efficiently with Optical Character Recognition. Convolutional recurrent neural network is proposed for training the words separately. The experiment and training are performed on Synth 90k word dataset. Finally using OCR and CRNN a proposed model has been developed.

Published in: 2019 International Conference on Intelligent Sustainable Systems (ICISS)

Date of Conference: 21-22 February 2019

DOI: 10.1109/ISS1.2019.8907995

Date Added to IEEE *Xplore*: 21 November 2019

Publisher: IEEE

ISBN Information:

Conference Location: Palladam, India

Metrics
More Like This

Electronic ISBN:978-1-5386-7799-5
Print on Demand(PoD) ISBN:978-1-5386-7800-8

Contents

I. Introduction

There is a total of 285 million visually impaired people in the world. Of these population, almost 30% are blind. This number is increasing rapidly due to abnormalities because of genetic hereditary issues [1]. The approach is basically to sense real time objects with utmost accuracy and gives output in the speech format. Recent advancements in computer vision and image processing fields has made this scenario a reality. So this paper deals with helping blind users with the latest technologies. It is a great deal to consider the size of a contour while processing an image in real time [2].

Authors
Figures
References
Citations
Keywords
Metrics

More Like This

Optical Character Recognition for English Handwritten Text Using Recurrent Neural Network
2020 International Conference on System, Computation, Automation and Networking (ICSCAN)
Published: 2020

Applications of Recurrent Neural Network Language Model in Offline Handwriting Recognition and Word Spotting
2014 14th International Conference on Frontiers in Handwriting Recognition
Published: 2014

Show More