Recognition Of Text From Images Using Machine Learning

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Abstract- *Text recognition from images is one of the most significant tool in today's world. At present,Digitalisation has occupied the world's economy.This has tremendously increased the information and data security.In the first step,text in the image gets converted into binary form.In the next step,the characters from the word are segregated.The process of segregation is followed by classification of text.This helps to carry out text recognition in the best possible way.Followed by classification comes the step of post processing which helps us to minimise the possibility of errors.In a variety of applications,Text Recognition plays a vital role.In this we have analysed the role as well significance of text recognition.*

Keywords *- Text recognition; segmentation; classification; post processing;extracting.*

I. INTRODUCTION

In the modern world,text recognition has become a very useful tool. Everything has gone digital these days.Most of the works are carried out online.This leads to production of tremendous volume of data.We need to store this large volume of data.At the same time,we need to access this data. Not only do we need to preserve the data produced but also do we need to take care of the authorisation.

The best way to pass the information from the books and other documents to systems is by scanning them and getting them recognised.In other words we need a special tool to get the text detected character by character and convert them into digital form.The aim of this project is to study and analyse various aspects of text detection and recognition and use them in our daily life as a powerful tool. OCR and CNN converts texts into soluble form. Text Reconition,as can be seen,is not an easy task as different characters need to be recognised and also handwritten characters are different for different persons in terms of shape,size,lines and other characteristics which add to the difficulty.

II. LITERATURE REVIEW

The main purpose of the project is to extract text from images by studying the models of ANN. For the task of text detection and recognition,neural networks are mostly used.We have studied the characteristics and behaviours of different models of neural networks to carry out the task. CNN is one of the most significant parts of neural networks. Multilayer Feed Forward network with Back propagation have been used. In Preprocessing we have used fundamental algorithms for detectimg and classifying the text.To increase the accuracy of the software,we have applied different models of the Convolusion Neural Networks.Extracting the text along with certain characteristics has become an important part of text recognition.The objective of extracting the quality features is to create a vivid picture of text recogniton. The software is able to recognise and detect even the handwritngs with 90 % accuracy.The detected text is processed and output is printed on the screen.

III. TEXT RECOGNITION

In this paper we have used different models of neural networks to extract the characters in a multi-lingual scenario. A concatenated structure based approach has been used to perform the text detection and recognition in the most suitable way.Features are studied and analysed very carefully before the text processing so as to ensure the accurate and correct extraction of text has been done. The rate of detection and reconition has been impeccable and faultless. The shape and size of the charcters gets scanned in a very smooth manner so as to reach supremacy of errorless outcome.A line based approach is utilised to detect and recognise each character correctly.
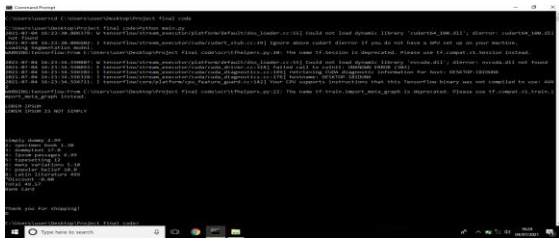
IV. CONTRIBUTIONS

It finds valuable use in recognising signboards and number plates.In bank sectors,it can be used in data entry works in slips.It can also be used in authentication purposes,ie.to give accesses to the valid users.In automobile sectors,it can be used in number plate recognition.For recognising of passports and visa,this software finds a monopoly. Differents books and documents can be scanned and stored in a digital form.This makes accessing the materials easy and simpler.Even handwritten texts can be scanned and stored .For blind visually challenged users,it can prove to be a boon.

V. ALGORITHM
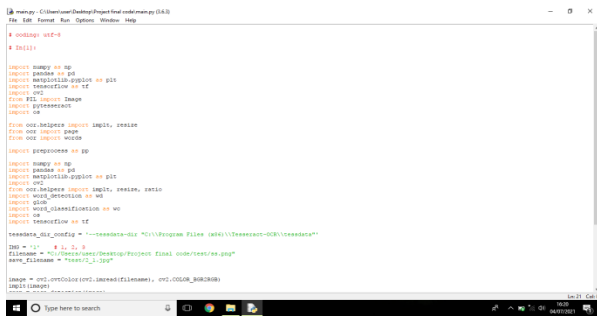
VI. SUMMARY

This paper portrays a short synopsis of a variety of processes used to carry out text recognition. The vast work carried out in text recognition is shown in brief.Basic overview is given in order to the complete working of the project.Ultimately,the various steps involved in text recognition are discussed.
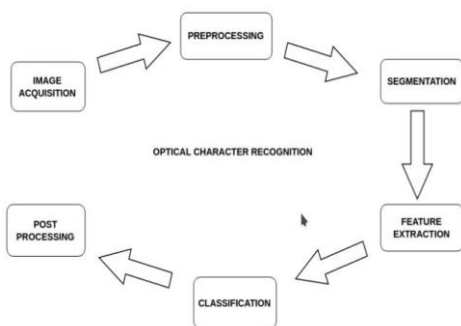
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