Optical Character Recognition by Open Source OCR Tool Tesseract: A Case Study

REVIEW

Text recognition is a broadly used method for converting printed text into editable text. text preprocessing and segmentation algorithms, and recover text from an image can effect the accuracy of the model and it can be challenging due to factors such as size, style, orientation, and complex background. This paper introduces OCR, discusses the history and architecture of the open-source OCR tool Tesseract, and presents experiment results of Tesseract's OCR performance on different kinds of images. The paper concludes with a comparative study of Tesseract and the commercial OCR tool Transym OCR, using vehicle number plates as input. The extracted vehicle numbers are compared based on various parameters.

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End-to-End Trainable Neural Network for Sequence Recognition and Its Application to Text Recognition

REVIEW

A long-running area of study in computer vision is image-based sequence recognition. One of the most significant and difficult issues in image-based sequence recognition, scene text recognition is examined in this work. The integration of feature extraction, sequence modelling, and transcription into a single framework is accomplished using a novel neural network architecture that is proposed. The suggested architecture for scene text recognition has four unique qualities over earlier systems: (1) It is end-to-end trainable, unlike the majority of the existing algorithms, whose components are learned and tuned independently. (2) It handles arbitrary length sequences without the need for horizontal scale normalisation or character segmentation. (3) It is not restricted to a certain vocabulary and performs admirably in both lexicon-free and lexicon-based scenes.

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A Detailed Analysis of Optical Character Recognition Technology

REVIEW

Computer vision research has long focused on the area of image-based sequence recognition. One of the most significant and difficult issues in image-based sequence recognition is the problem of scene text recognition, which is the subject of this research. The integration of feature extraction, sequence modelling, and transcription into a single framework is accomplished through the use of a unique neural network design. The suggested architecture differs from existing systems for scene text recognition in four ways: (1) It can be learned from beginning to end, unlike the majority of other algorithms, the components of which must be trained and tweaked independently. (2) Without character segmentation or horizontal scale normalisation, it automatically accommodates sequences of any length. (3) It is not constrained by any specified lexicon and exhibits impressive performances in both lexicon-free and lexicon-based scenes.

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Enhancing Optical Character Recognition on Images with Mixed Text Using Semantic Segmentation

REVIEW

The subject of recognising printed and digital characters has advanced significantly thanks to optical character recognition text with suitable formatting. The work required to create systems that can accurately apply OCR to both printed and handwritten text concurrently, such as hand-filled forms, is, however, considerable.

. It is exceedingly challenging to categorise and recognise handwritten writings using classic OCR alone since machine printed/typed text adheres to specified forms and typefaces but handwritten texts are variable and non-uniform. Here, a pre-processing technique using semantic segmentation is provided to find, segment, and crop text-containing boxes on an image to enhance the output of existing online OCR engines. The authors of this paper also compare well-known OCR tools like Microsoft Cognitive Services.

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Evaluating Methods for Optical Character Recognition on a Mobile Platform

REVIEW

Optical Character Recognition (OCR) has increasingly used deep learning, yet there are a few instances of studies looking at whether the two technologies can be used on mobile platforms. This study looks at which OCR technique would work best on a mobile device.

The platform in the particular case of a scanner for prescription drug labels. The method that offers the best compromise of accuracy, speed, and resource use has been shown to be standard seep learning, in this particular case, according to a case study using three different methods of OCR - classic computer vision techniques, standard deep learning, and specialised deep learning - tested against 100 prescription medicine label images. Seep learning is tested with an accuracy of 76% and an additional 10%.

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A Survey and Major phases on Optical Character Recognition System

REVIEW

OCR, or optical character recognition, is a long-time subject of interest. It is described as the process of breaking down a picture of a document into its individual characters.

Even after decades of intensive research, creating OCR with human-like abilities is still a difficult task. Researchers from both academic and industrial circles have focused on optical character recognition because of its difficult nature. The number of academic labs and businesses conducting research on character recognition has drastically expanded during the past several years. This study seeks to summarise the research that has already been conducted in the area of OCR. It gives a summary of several OCR facets and explores relevant suggestions meant to address OCR problems.

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Soft Computing Techniques for Optical Character Recognition Systems

REVIEW

Researchers are searching for rigorous character recognition techniques as a result of the constant rise in demand for reliable and affordable optical character recognition (OCR) systems. In the past, OCR systems have been created using conventional machine learning and pattern recognition techniques.

The goal has always been to create the best OCR products possible that meet customer requirements. Soft computing approaches have emerged in recent years as a possible contender for the creation of OCR systems that are both affordable and efficient. This chapter presents some significant soft computing methods for optical character recognition (OCR) systems. They are fuzzy multilayer perceptrons (FMLP), rough fuzzy multilayer perceptrons (RFMLP), fuzzy support vector machines (FSVM), genetic algorithms (GA) for feature selection, and the hough transform for fuzzy feature extraction.

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Optical Character Recognition Systems for German Language

REVIEW

German language optical character recognition (OCR) positions itself in a significant class of pattern recognition systems. Multiple OCR systems for the German language have resulted from this. Spanish is thespoken the most in Central Europe. Numerous commercial items have used German language OCR technologies with success . Similar to English and French, German has a strong potential for character recognition in data and word processing. Automated postal address and ZIP code reading, data extraction from bank checks, processing of institutional documents that have been archived, etc. are some of the frequently utilised uses of German OCR systems.

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DETAILED DESCRIPTION ABOUT OPTICAL OPTICAL CHARACTER RECOGNITION SYSTEM

REVIEW

User: The user of the application is referred to by this class. The press capture Image Button and press Import Image Button methods of this class are responsible for invoking the Capture Image and Import Image classes, respectively, and processing each user's request.

Photo Resolution, Photo Noise, Photo Brightness, and Photo Blurness are properties of the class Capture Image. These characteristics are connected to the photo that the user takes, so the photo must be taken with a high-end gadget that has a high resolution. Additionally, the class has methods for camera Adjustment, taking Picture, and opening Camera that are solely in charge of taking the photo.

Process Image: The image is the attribute of this class. It is principally in charge of the image's preprocessing, which is carried out using the methods Binarize, blurness Reduction, noise Removal, and brightness Reduction. This method Image

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BENEFITS OF OPTICAL CHARACTER RECOGNITION AND ITS SUPPLY CHAIN

REVIEW

Searchability :Once you have transformed your scanned file into readable text, you can save it as a.doc,.rtf,.txt (the simplest), pdf, etc. Then, with nearly any system, these files may be simply searched.

Editability :You could want to update a previous will or contract that you wrote many years ago. Instead of inputting the full document, you can quickly modify it with a word processor after utilising OCR to digitise it.

Government archives could be created as an additional use.

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