

Image-Based Text Recognition & Translation Using Machine Learning

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Abstract: *Text recognition in images is a research area that aims to create a computer system that can automatically read text from images. There is high demand these days for storing information available in paper document format on a computer storage disc and then reusing this information through the searching process. One simple method for transferring information from paper documents to a computer system is to scan the documents and then save them as images. However, it is extremely difficult to reuse this information by reading the individual contents and searching the contents of these documents line-by-line and word-by-word. The difficulties involved in this are the font characteristics of the characters in paper documents and the image quality. Because of these difficulties, the computer is unable to recognize the characters while reading them. As a result, character recognition mechanisms are required to perform. In this paper, we will look at a method for recognizing text from images. The goal of this paper is to recognize text from images for better reader comprehension by employing a specific sequence of different processing modules. Many people in today's world face the problem of language translators. A technology known as machine translation can help to solve this type of problem. This paper proposed machine translation using a recurrent neural network with an attention mechanism, where a recurrent neural network (RNN) is a type of neural network designed to capture information from sequence and time-series data. As human language is one big complex pattern or a complicated pattern, RNN is useful for learning patterns in a given set of data. In machine translation, two recurrent neural networks collaborate to transform one sequence into the other. An encoder network modifies an input sequence in a vector, whereas a decoder network modifies the vector in a new sequence. To improve the previously stated RNN model, we will employ the attention mechanism, which aids in focusing on a specific range of input sequences.*

Keywords: Text Detection, Text Recognition, OCR, Machine Translation, Language Translator, RNN

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