

CHAPTER 1

INTRODUCTION

1.1. Background

Sometimes processing text data or numbers in images, it makes us difficult to process the data. Ocr is software that converts text in image format or image files into text format that can be read and edited by computer applications. This application is able to extract text in an image. Actually there are lots of applications like this on the internet. But for those of us who care about privacy, sometimes there is our data that we don't want to publish on the internet, therefore using offline applications will certainly be safer.

This program will later be more of a text converter in the image into a txt file, not only detecting text. The data will also be easier to process if the final result is in the form of txt. And also not just calling the open source library tesseract because I've tried it and there are some images whose backgrounds make it undetectable or illegible. therefore using the ocr algorithm, before choosing the OCR algorithm, the image must be processed first so that the image is ready to be "read". by using image denoising to remove color image noise and also a thresholding method that will separate objects from the background in the image based on differences in brightness or lightness. there are also other preprocessing processes such as erosion to stretch text.

From the final result, a string of each word will appear at each point x, point y, point width, and high point with a diagonal position from there will detect each word not a sentence, and will also output text in the image that will appear in notepad

1.2. Problem Formulation

Based on the above background, the formulation of the problem can be described as follows:

1. Does pre-processing in text detection affect the use of tesseract?
2. Does the background of image affects the sensitivity of text detection?

1.3. Scope

Because the background element in the image can determine the detection of text in the image, therefore a grayscaling process is needed where the RGB image will be made monochrome so that the text in the image can be easily detected.

1.4. Objective

Create a program that makes it easy for the text in the image to become a txt file to make it easier for us to process data without having to rewrite it.

