

CHAPTER 1

INTRODUCTION

1.1 Background

In this era that is increasingly advanced and rapidly developing in terms of development and information technology, we are increasingly confused by new places that we have never visited, or even passed by, but we never know what place or building it really is. As in big cities, many buildings have a specific purpose. Buildings have various kinds such as public buildings, public buildings in the form of places to eat, entertainment places, places of business. Thus, the place has a unique name to attract attention and boost popularity among the people, but they do not know exactly what the place is. So the community tries to find information from the name of the place through social media such as Instagram, Facebook, Twitter, but sometimes these places do not create accounts on social media, making searches more difficult, then another way is to ask other people about the information about the building. With the development of technology and information systems, this can be overcome by using image processing which will find out information from that place. The problem in this case is to find a place description of a building that has a unique name.

East (Efficient and Accurate Scene Text) is a text detector in natural scenarios in open CV is a deep learning model, based on a novel architecture and training pattern as its main purpose as OCR (optical character recognition), the use of EAST in text detection can be used to process images to help find place information by detecting images containing text that will be processed to get the text area which can then be processed to find out the description of the name of the building.

In this project, image processing uses the EAST (Efficient and Accurate Scene Text) algorithm. Which aims to be used for text detection on the image that has been taken, as the main material for the next process, namely the name of the building detected by a deep learning text detector. Text detection is done by assigning a threshold value to each pixel in the image file which is then processed at the deep learning stage to detect sentences in the image. After that, deep learning the image that has been given a threshold value will go through the deep learning layer, namely PVA NET, Feature merging branch, output layer. then the pixel that is valued will be given a boundary box as a marker where the detected text is found.

Therefore I want to make it easier and help in providing information in the form of the name and description of a building or building accurately and quickly.

1.2 Problem Formulation

1. How does the EAST algorithm work for Text detection?
2. How to improve the way text detection works on EAST?
3. What are the advantages of the EAST algorithm in its use in image processing?

1.3 Scope

This analysis project the author uses Python version 3.6. This project uses a library consisting of Numpy, Tensorflow, cv2, Pytesseract, Keras, time, Sequential, etc. And with the hope that the detected image is clear or not blurry and faded and also not obstructed by trees and others, then the maximum results can be obtained.

1.4 Objective

This objective for this project is use to get information of a place by using image processing with algorithm EAST as main of processing image. And to displaying information to user to understand what place it is and make it more efficient to get information, so that they can quickly and accurately determine their choice if it is needed. Therefore, this system for detecting the name of a building or place that I created can produce results and be useful for many people.

