

OCRacle

Project Report

Introduction

Optical Character Recognition (OCR) is the process of converting text present in images into machine-readable text. In this project, two images were tested separately using PyTesseract and EasyOCR in order to compare their performance and preprocessing requirements.

Comparison between Pytesseract and EasyOCR

For Pytesseract, image preprocessing plays an important role in detecting text from an image, whereas in EasyOCR there is no need for preprocessing. However, when the text in images is curved or rotated, Pytesseract performs very poorly even after preprocessing. In comparison, EasyOCR handles such cases better because EasyOCR uses deep learning-based text detection and recognition model . Therefore, we can say that Pytesseract requires a clear image or a scanned document to work properly.

Preprocessing steps

1. **Transparency Handling**
2. **Rescaling**
3. **Grayscale Conversion**
4. **Noise Removal**
5. **Thresholding**
6. **Morphological Operations**
7. **Borders and Padding**

Result

In this assignment we didn't train the Easyocr model so the accuracy of easyocr was less than the pytesseract. But in general EasyOcr work better than the Pytesseract in real

life. When i use Pytesseract on a handwritten note then the value of CER was nearly 0.1 and WER was 0.3 and in EasyOcr the value of CER and WER was 0.6 and 1 respectively.