Submission Summary

Conference Name
3RD INTERNATIONAL CONFERENCE ON INTELLIGENT SYSTEMS, ADVANCED COMPUTING AND COMMUNICATION (ISACC 2025)

Paper ID
622

Paper Title
Performance Analysis of Tesseract and EasyOCR for Bangla Optical Character Recognition on the Novel Bangla-CrossHair Dataset

Abstract
This paper presents a comparative study of key metrics for OCR engines in Bangla language processing. PyTesseract (Tesseract OCR) and EasyOCR were benchmarked on a novel dataset, “Bangla-CrossHair,” created for testing OCR engines. This dataset combines samples from “Bangla Text Detection and Recognition,” “Bangla Handwritten Characters,” and “Bangla Handwritten Words” datasets and includes diverse image types, such as blurred, clear, torn, and tilted. Results show EasyOCR outperforms PyTesseract in several scenarios, while PyTesseract consistently demonstrated faster processing. Since many OCR engines provide pre-trained capabilities, traditional metrics like training and validation accuracy are challenging to measure for some models, including PyTesseract. Instead, metrics like Character Level Accuracy, Word Level Accuracy, Levenshtein Distance, Character Error Rate, Word Error Rate, Precision, Recall, and F1-Score were used for unbiased evaluation.

Created
12/9/2024, 11:54:49 AM

Last Modified
1/17/2025, 1:19:56 PM

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Primary Subject Area
INTELLIGENT SYSTEMS

Submission Files

Performance Analysis of PyTesseract and EasyOCR for Bangla Optical Character Recognition on the Novel Bangla CrossHair Dataset.pdf (722.7 Kb, 12/9/2024, 11:53:27 AM)

Supplementary Files

Supplementary.pdf (83.7 Kb, 12/9/2024, 12:31:13 PM)

Revision Files

622.pdf (767.3 Kb, 1/23/2025, 5:06:48 AM)