IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 4, May 2025
Impact Factor: 7.67

Image Multilingual Translation using OCR

Vachan R, Nikil Kumar V, Shreyas S, Prof. A S Vinay Raj, Shree Shayan Hebbar
Department of Information Science and Engineering
Global Academy of Technology Bengaluru, Karnataka, India
vachan1ga21is180@gmail.com, nikil1ga21is105@gmail.com, shreyas1ga21is156@gmail.com
shayan1ga21is153@gmail.com, vinayrajas10@gmail.com

Abstract: *Language barriers continue to pose significant challenges in an increasingly globalized society, particularly when it comes to understanding textual content embedded within images. From street signs and restaurant menus to educational material and official documentation, much of the information people encounter in daily life is visually presented and often inaccessible to non-native speakers. Traditional translation tools require manual text input, which is not always feasible or user-friendly, especially for real-world, image-based scenarios. This paper introduces a lightweight and accessible web application that automates the process of extracting and translating text from images. By combining Optical Character Recognition (OCR) with Neural Machine Translation (NMT), the system allows users to upload images, detect and extract multilingual text, translate it into a preferred language, and seamlessly overlay the translated text back onto the original image. The backend, built using Python and Flask, integrates Easy OCR for robust multilingual text detection and the Google Translator API (via deep _translator) for accurate and fluent translation. The translated output is rendered using the Python Imaging Library (PIL) to maintain visual coherence and readability. Experimental results show promising accuracy and speed, making the tool effective for practical use in tourism, education, accessibility, and cross-cultural communication. The system is modular, responsive, and designed with user convenience in mind, offering a real-time, scalable solution for image-based language translation.*

Keywords: Optical Character Recognition (OCR), Easy OCR, Cross-Language Communication, Google Translator API, Neural Machine Translation (NMT)

DOI: 10.48175/IJARSCT-26485