Machine Learning Techniques for Real-time Language Translation in Social Media Platforms

Hiteash Mahajan

Department of Computer Science Engineering

UIET Kathua, Jammu & Kashmir, India

hiteashgupta1@gmail.com

Abstract: *This research explores the application of machine learning techniques for real-time language translation in social media platforms. The study aims to enhance translation accuracy, minimize latency, and expand translation capabilities using advanced machine learning models. By leveraging neural networks and deep learning approaches, the research addresses the challenges of multilingual communication on social media, including the need for contextual understanding and cultural adaptation. The findings highlight improvements in translation efficiency and quality, demonstrating the potential of machine learning to bridge language barriers and foster global communication. However, limitations such as dataset biases and model generalization remain, underscoring the need for ongoing innovation in this field*

Keywords: machine translation, neural networks, real-time translation, social media, BLEU score, user perception, multilingual communication, natural language processing