

ABSTRACT

Communication is a fundamental human need, especially in the workplace. However, individuals with disabilities, particularly the deaf, often face significant barriers in interacting and understanding information. This issue creates a gap in their opportunities for participation in formal work environments. Developing technological solutions to overcome these communication barriers is crucial for promoting inclusivity and equal employment opportunities for people with disabilities. Innovation in this field can enrich team dynamics and overall organizational performance. This research aims to develop an Indonesian Sign Language (BISINDO) translation application utilizing Convolutional Neural Network (CNN) technology with a MobileNet architecture. The application is designed to detect and translate hand gestures into text in real-time on mobile devices. The research process includes collecting datasets from external platforms, training the model using the BISINDO dataset, and comprehensively testing the application's performance and accuracy. The research results indicate that the developed application is capable of detecting and translating BISINDO gestures, achieving an accuracy of 99% on the test data. This contribution supports the further development of assistive technologies, enabling people with disabilities to participate more fully in professional environments.

Keywords: *Indonesian Sign Language, MobileNet, CNN, Inclusion, Communication.*