

# SIGN LANGUAGE IDENTIFICATION USING IMAGE PROCESSING TECHNIQUES

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## Abstract

In everyday life, computers handle a large amount of data from different sources and formats such as sensors, databases, social networks, texts, etc. In addition to this process, people need to use different communication devices that enrich and facilitate human-computer interaction (HCI). As a result, there is a need to develop computational techniques that allow the search for patterns or characteristic data in images, audio waves, or electrical pulses, among others, to carry out tasks that only humans can do better so far. In this way, to improve both the User Experience (UE) and the ease of interaction with computers, various approaches to natural interaction have been proposed, including digital image processing and acquisition from various data sources such as a sensor like Kinect. In this study, the processing of images obtained from a digital camera is approached to characterize them by using basic computer vision techniques. The paper presents the development of a prototype for supporting people who speak sign language to know if the sign they are doing is correct.

## Keywords

Genetic algorithm, Image processing techniques, Sign language identification