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Smart Communication Haptic Glove for Deaf and Dumb People

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Abstract: *Most of us are blessed with natural ability to see, listen and interact. However, few people do not have this ability. Due to various reasons like birth defects, accidents, oral diseases, and environmental impacts the number of such people is rapidly increasing in the recent years. Most of the deaf and dumb use gesture and sign symbol for the communication. Sign language is the form of communication where shapes, arms or body, orientation and movement of hands, and facial expressions are systematically combined. But, sign language is ineffective in many cases. It may not be sufficient when such people are involved in the educational, social and professional environments where they want to interact with others. Therefore, there is an immediate need to have an advanced sign language detection and gesture recognition system. The need, design methodology and implementation strategies of a smart glove are discussed in this paper. The main objective of the work is to bring the technology for the help of differently abled people to communication effectively and in most meaningful form. The hand glove converts the hand/finger gestures in to meaningful voice messages over an Android phone.*

Keywords: Sign Language Recognition, Wearable Technology, Flex Sensors, Motion Sensors, Assistive Device

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