CHAPTER 11

Enhancing communication: a review on applications of AI–based wearables for the deaf and mute

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11.1 Introduction

This exploration primarily examines efficient communication methods between individuals who are hearing and speaking impaired and those who are not. Communication is a powerful means of sharing and expressing feelings, thoughts, and opinions. However, the communication barrier between those with impaired and nonimpaired circumstances hinders the expression of their views. According to the World Health Organization, approximately 6% of the population has hearing and visual impairments. Machine learning (ML) is the predominant domain within artificial intelligence (AI). This field encompasses cutting-edge research and technological progress that offer enhanced, automated, and practical algorithms for handling substantial amounts of data in diverse fields, such as computer vision, neuroscience, speech recognition, language processing, human–computer interaction (HCI), health informatics, medical image analysis, recommender systems, and fraud detection. The AI with the highest efficiency level for this technology is of the utmost quality.

Utilizing natural language processing and ML algorithms can improve the accuracy of speech recognition and word prediction, reducing dictation errors and promoting efficient communication among students and teachers. Medical AI has been at the forefront of innovation in healthcare, with substantial financial commitments made by physicians and enterprises over the last 10 years. ML offers significant benefits for assistive devices in

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