**Intelligent system for speech volume control for hearing-impaired individuals**

SE-A-10  
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Hearing-impaired individuals often struggle to regulate their speaking volume according to their environment. This project proposes an AI-based intelligent system that provides real-time feedback, enabling users to control their voice intensity based on ambient noise levels. Using Microsoft Azure’s speech recognition API, we developed a system that incorporates data collection stages and delivers discreet alerts via a wearable device or smartphone when speech is too loud or too soft. The goal of the system is to boost communication confidence, promote social inclusion, and improve interactions and the quality of life of individuals with hearing impairments. Accordingly, a pilot study is planned to evaluate the system’s effectiveness and user experience.

**Keywords:** AI, hearing impairment; social, voice control.