



CANTILEVER AIML PROTERNSHIP 2025

ABSTRACT

Project Title:

Voice-Based AI Mental Health Assistant for Emotional Support

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Abstract:

Mental health concerns such as stress, anxiety, and depression are increasingly prevalent, yet access to timely and effective support remains limited due to stigma, cost, and shortage of professionals. This paper presents a *Voice-Based AI Mental Health Assistant* designed to provide emotional support through natural, empathetic conversations. The assistant utilizes advanced technologies including Automatic Speech Recognition (ASR), Natural Language Processing (NLP), and emotion recognition algorithms to interpret users' vocal and linguistic cues. It offers features such as mood tracking, guided mindfulness exercises, and personalized motivational feedback. The system aims to serve as an accessible, non-judgmental, and always-available companion for emotional well-being. It also includes safety mechanisms to recommend professional help in high-risk scenarios, while ensuring user privacy. Though not a substitute for therapy, this AI assistant has the potential to supplement mental health care, especially in resource-limited settings.

Keywords:

Voice assistant, mental health, emotional support, artificial intelligence, speech recognition, natural language processing, emotion detection.