EMOTION BASED MUSIC PLAYER USING

CONVOLUTIONAL NUERAL NETWORKS :

Abstract:

This project aims to develop a real-time, emotion-based music playlist generator that dynamically curates song recommendations based on the user’s emotional state. The system integrates advanced machine learning techniques for emotion detection through three input modes: text-based sentiment analysis, voice emotion recognition, and facial expression analysis. The backend leverages deep learning models (CNN/LSTM) for voice analysis, facial emotion recognition using OpenCV and DeepFace, and NLP-based sentiment detection to accurately classify user emotions. Once the emotion is identified, a hybrid recommendation system combines collaborative filtering and content-based filtering to suggest songs that match the detected mood. The system seamlessly integrates with Spotify, Apple Music, and Last.fm APIs to fetch personalized playlists. Over time, it learns user preferences for enhanced recommendations. The front-end provides an intuitive interface, allowing users to manually adjust playlists if desired.

With support for real-time emotion detection, dynamic playlist generation, and cross-platform deployment on Heroku or AWS, this application offers an innovative and personalized way to engage with music, transforming the listening experience through AI-driven emotional intelligence. The emotion-based music playlist generator personalizes song recommendations by detecting user emotions through text, voice, and facial analysis. With AI-driven hybrid recommendations and seamless integration with streaming platforms, it enhances the listening experience. This system bridges technology and emotions, making music interaction more intuitive and immersive.

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