

Emotion-Driven Music Recommendations with CNN

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Abstract: *With the rapid growth of digital media and artificial intelligence, personalized content delivery has become a major focus in enhancing user experience. Music, being a deeply emotional and personal medium, offers a unique opportunity for intelligent systems to understand and respond to users' moods. This project, titled Emotion-Driven Music Recommendation Using Convolutional Neural Networks (CNN), proposes an innovative approach to music recommendation that leverages deep learning techniques to detect user emotions from facial expressions. By using CNNs, the system can accurately classify real-time facial images into emotion categories such as happy, sad, angry, or neutral. Once the emotion is identified, the system dynamically recommends songs that align with the user's current mood, thereby creating a more immersive and emotionally adaptive listening experience. The proposed model is trained on a facial emotion dataset and integrated with a music recommendation engine. This approach not only enhances user satisfaction but also demonstrates the practical application of machine learning in human-centered design. The system aims to provide a seamless, emotion-aware recommendation framework that goes beyond traditional static playlists, making music listening more engaging and intuitive..*

Keywords: Emotion recognition, Music recommendation, Convolutional Neural Networks (CNN), Facial expression analysis, Deep learning, Real-time emotion detection, Personalized music, Human-centered AI, Emotion-aware system, User experience enhancement

