

ABSTRACT

People often find it hard to choose the perfect song that fits their present mood in the digital age. As a result, they waste unnecessary time looking for music that relates to their feelings. Song recommendation systems can greatly improve user experience by incorporating the latest developments in Deep Learning and Artificial Intelligence (AI). This study aims to create an emotion-based music recommendation system that automatically makes song recommendations by analysing a user's recorded facial expressions. When a user uploads a face image, the system uses a Convolutional Neural Network (CNN), specifically ResNet50V2, to detect emotions and do image pre-processing. Next, a suitable song is suggested based on the detected emotion's mapping to a related musical genre. A real-time and dynamic music selection process based just on the user's emotional state is provided by this method, in contrast to typical systems that rely on user input or preference history. This study shows how artificial intelligence (AI) may improve tailored entertainment experiences by giving consumers a simple and natural way to choose music. The technology guarantees a quick, interesting, and emotionally responsive music-recommendation experience by doing away with the necessity for manual searches.

Keyword: **Terms**—Emotion recognition, Deep Learning, Music Recommendation, ResNet50V2, Transfer Learning, Facial Expression Recognition, Computer Vision.