**FACIAL EMOTION MUSIC RECOMMENDATION USING CNN**

**ABSTRACT**

Traditional Facial emotion based music recommendation systems rely on collaborative filtering to recommend songs or artists. This is computationally efficient and performs well method but is not effective when there is limited or no user input. For these cases, it may be useful to consider emotional impact of music based recommendation according to the user their emotional mood detection like sad, happy, normal, angry etc. This project considers a facial emotion impact based music recommendation system based on lyrical data. We compare a complex network of emotional lyrical recommendations to an equivalent collaborative filtering network. We used user generated tag data from Last.fm to produce of each network based on tag categories representing musical genre, mood, and gender of vocalist. We analyzed these data to determine how recommendations within each network tend to stay within tag categories. Finally, we compared the video based lyrical recommendations to the collaborative filtering recommendations to determine how well lyrical recommendations perform. We see that the lyrical network is significantly more clustered within tag categories than the collaborative filtering network, particularly within small musical niches, and recommendations based on lyrics alone perform 12.6 times better than random recommendations.