Deep Learning Approach for Emotion-driven Music Recommendations Based on Facial Expressions
Facial Recognition and Music Recommendations

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1 Research Problem Background

Facial Expression has become a very popular non-verbal conversion nowadays. Over the recent years facial expression analysis has extended to various fields like (1)health diagnostics and mood recognition. (2)Facial expression is also used in retail to suggest gift categories for the customer. In this research, the author focuses on the interaction of facial expressions and music recommendations.

2 Research Question

How can deep learning-based facial expression recognition with optimized hyperparameters improve the accuracy and flexibility of music recommendation systems by combining advanced facial recognition with conventional machine learning for song recommendation?

3 Justification

The author builds a model that recognizes the facial expression and behalf of the facial expression suggests the song category which is helpful for the user to realise the stress, and feel happy.(3)(5) There are previous research also done to detect facial expressions using CNN (Convolutional Neural Network), Machine learning, and some pre-trained deep learning models. In this research, the author tries to use advanced pre-trained deep-learning techniques applied on 2-3 datasets to detect the facial expression and then compare the accuracy matrices with the previous researchers after this the author uses traditional classification machine-learning models to Recommend the songs category.

4 Specific Items to Be Addressed

1. Using Pre-trained advanced Deep learning models try to find the best accurate model.

2. Improve the previous research by doing more evaluation matrices such as recall, precision, accuracy, etc, and also to verify the performance of the model and compare with others of previous reviews.

4. Evaluation and analysis of research papers related to facial expression recognition and Song Recommendation.

5. Using the Traditional machine learning model to classify the songs based on facial expression which the author gets by applying the deep learning models.

References

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