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Image processing based emotion recognition
PROJECT PROPOSAL

To construct an emotion detection system that can analyze the fundamental facial expression of humans. In this paper, we will build a frame of an emotion recognition system that includes face detection, facial feature extraction, and facial expression classification. Part of face detection involves skin detection, which is first used to capture the facial area from a complex background. Lip, Mouth, and Eyes, Eyebrow feature points are detected. As the facial feature points change, characteristic values of emotion state are calculated. The proposed strategy has been successfully tested in an experiment.

RELATED WORK

1. **Deep Learning-Based Approaches:**

   CNNs have been used to detect emotions from facial images for a long time. Various CNN architectures have been studied for this purpose, including VGG and ResNet, as well as Inception.

2. **Datasets for Emotion Recognition:**

   Emotion recognition models are trained and evaluated using datasets such as the FER dataset (Facial expression recognition) and the CK+ dataset (cohn-kanade).

3. **Facial Landmark Detection:**

   Facial landmarks, such as the corners of the eyes and the edges of the mouth, are essential for proper emotion recognition. Algorithms and models for facial landmarks detection have been developed by scientists to enhance the performance of emotion detection systems.

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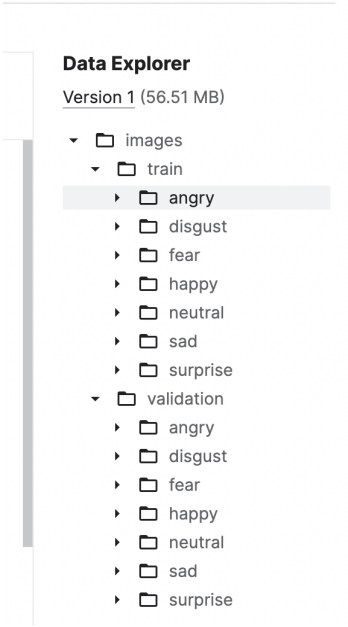
DATASETS

https://www.kaggle.com/datasets/jonathanoheix/face-expression-recognition-dataset?resource=download



FINAL DELIVERABLES

INPUT



OUTPUT


Angry Disgusting

Sad

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REFERENCE

https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5551816&tag=1

https://www.kaggle.com/datasets/jonathanoheix/face-expression-recognition-dataset?resource=download

https://www.nature.com/articles/s41598-023-35446-4

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