EMOTION DETECTOR

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Abstract:

Automatic emotion recognition based on facial expression is an interesting research field, which has presented and applied in several areas such as safety, health and in human machine interface. Researches in this field are interested in developing techniques to interpret, code facial expressions and extract these features in order to have a better prediction by computer. With the performance. The purpose of this paper is to make a study on recent works on automatic facial emotion recognition FER via deep learning. We underline on these contributions treated, the architecture and the databases used and we present the progress made by comparing the proposed methods and the results obtained. The interest of this paper is to serve and guide researchers by comparing the proposed methods and the results obtained. The interest of this paper is to serve and guide researches by review recent works and providing insights to make improvements to this field

Problem Description

Emotion recognition is the process of identifying human emotion. People widely in their accuracy at recognizing the emotions of other. Use of technology to help people with emotion recognition is a relatively nascent research area. Generally, the technology works best if it uses multiple modalities in context. In this project I propose an implement a general convolution neural network building framework for designing real-time CNNs. I will validate our models by creating a real-time vision system which accomplishes the task of face detection, gender classification and emotion classification along with identifying few set of objects simultaneously in one blended step using our proposed CNN architecture. After presenting the details of the training procedure setup we proceed to evaluate on standard benchmark sets.

Scope:

Emotion recognition has wide scope in many areas such as human computer interaction. Biometric security etc. So it provides insight into artificial intelligence or machine intelligence that uses various supervised and unsupervised machine-learning algorithms to simulate the human brain.

Another important domain where we see the importance of emotion detection is for business promotions. Most of the businesses thrive on customer responses to all their products and offers. If an artificial intelligent system can capture and identify real time emotions based on user image or video, they can make a decision on whether the customer liked or disliked the product or offer.

We have seen that security is the main reason for identifying any person. It can be based on finger-print matching, voice recognition, passwords, retina detection etc. Identifying the intent of the person can also be important to avert threats. This can be helpful in vulnerable areas like airports, concerts and major public gatherings which have seen many breaches in recent years.

Objectives

This project is a system which automatically recognizes the emotion represented on a face. Thus a neural network based solution combined with image processing is used in classifying the universal emotions: Happiness, Sadness, Anger, Disgust, Surprise and Fear. Coloured frontal face images are given as input to the prototype system. After the face is detected, image processing based feature point extraction method is used to extract a set of selected feature points. Finally, a set of values obtained after processing those extracted feature points are given as input to the neural network to recognize the emotion contained. In addition to emotion detection, this project can help detect a few set of objects in the frame too.

Purpose:

Sentiment Analysis aims to detect positive, neutral, or negative feelings from text, whereas Emotion Analysis aims to detect and recognize types of feelings through the expression of texts, such as anger, disgust, fear, happiness, sadness, and surprise

We aim to demonstrate that emotions should not be overlooked in deception research, as they are important in understanding how social interactions unfold and how people make veracity judgments. The EBA suggests that facial expressions are the strongest source of emotional cues

Facial expression recognition or computer-based facial expression recognition system is important because of its ability to mimic human coding skills. Facial expressions and other gestures convey nonverbal communication cues that play an important role in interpersonal relations.

Requirement Analysis:

Deep Learning

Deep learning is a machine learning technique that teaches computers to do what comes naturally to humans: learn by example. Deep learning is a key technology behind driverless cars, enable them to recognize a stop sign, or to distinguish a pedestrian from a lamppost. It is the key to voice control in consumer devices like phones, tablets, TVs, and hands-free speakers

In deep learning, a computer model learns to perform classification task directly from images, text, or sound. Deep learning models can achieve state-of-the-art accuracy, sometimes exceeding human-level performance.


Joy
Happiness
Surprise
Sadness
Fear
Anger
Positivity