

Facial Emotion Detection

Using CNN (convolutional neural network)

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1. Background/ Problem Statement

Recognizing facial expressions would help systems to detect if people were happy or sad as a human being can. This will allow software's and AI systems to provide an even better experience to humans in various applications. From detecting probable suicides and stopping them to playing mood-based music there is a wide variety of applications where emotion detection or mood detection can play a vital role in AI applications. The system works on CNN (convolutional neural network) for extracting the physiological signals and make a prediction. The results can be drawn out by scanning the person's image through a camera and then correlate it with a training dataset to predict one's state of emotions.

2. Working of the Project

This system can detect the Live Emotions of the particular user, system compares the information with a training dataset of known emotion to find a match. Different emotion types are detected through the integration of information from facial expressions, body movement and gestures, and speech. The technology is said to contribute in the emergence of the so-called emotional or emotive Internet, Algorithm involve the use of different supervised machine learning algorithms in which a large set of annotated data is fed into the algorithms for the system to learn and predict the appropriate emotion.

3. Advantages

- Can be used in multiple AI tools to get user feedback.
- No need of human intervention

4. Algorithm

- CNN (**Convolutional Neural Network**)



5. System Requirements

I. Hardware Requirement

- Laptop or PC
- I3 processor system or higher
- 4 GB RAM or higher
- 100 GB ROM or higher
- Webcam enabled or an External Camera

II. Software Requirement

- Windows 7 or higher
- XAMP or WAMP Server
- Vs-code or Text Editor (Notepad++ or Sublime Text)
- Camera Driver

6. Limitation/Disadvantages

- Internet Connection is mandatory

7. Application

This system can be used by any user who wants to explore artificial intelligence

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