

Emotion Recognition using Computer Vision and Machine Learning

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What is Computer Vision?

- ▶ Computer Vision is a technology which enables the computer to see the environment just like humans and interpret the results out of it.
- ▶ In the simplest terms, computer vision is the discipline of "teaching machines how to see."

What is emotion recognition?

- ▶ Emotion recognition is a technique used in software that allows a program to "read" the emotions on a human face using advanced image processing.

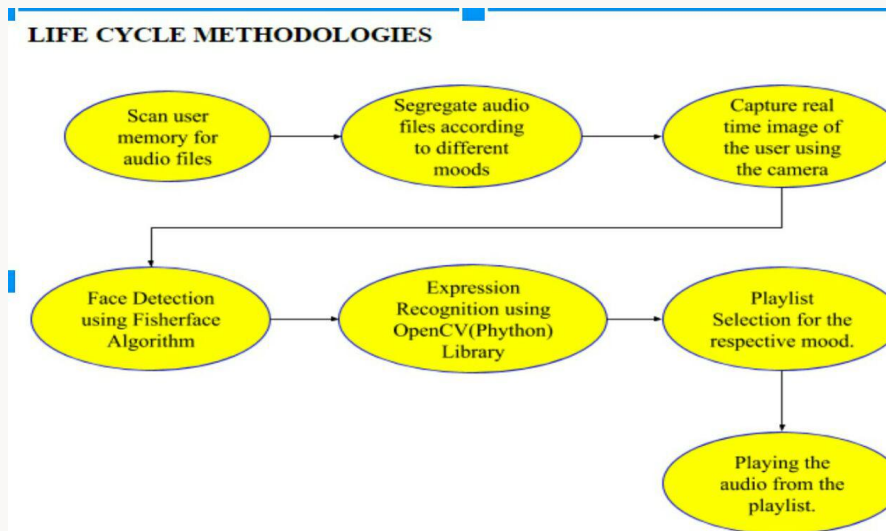
what is Machine Learning?

- ▶ Machine learning is a type of artificial intelligence (AI) that provides computers with the ability to learn without being explicitly programmed.

Procedure to recognize the emotion using computer vision and machine learning

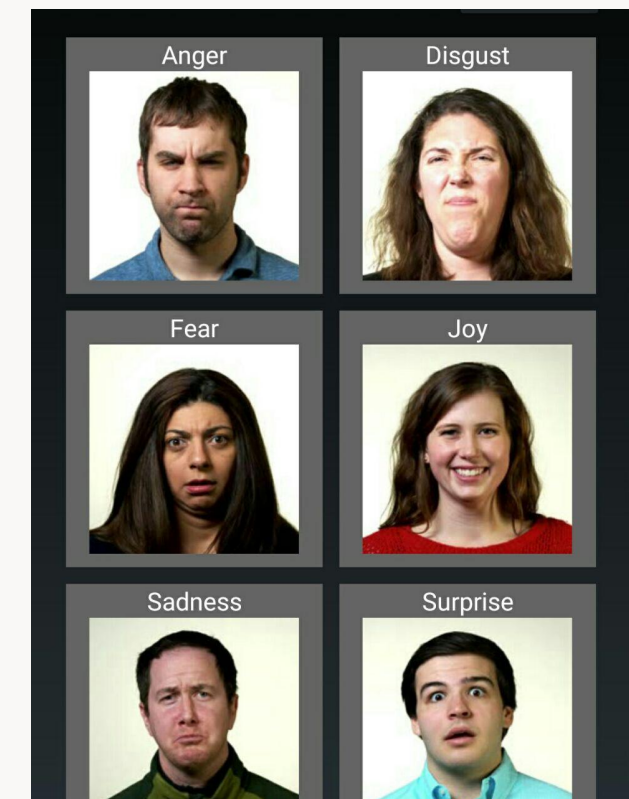
- ▶ Face detection using Haar Cascades
- ▶ Feature Extraction
- ▶ Emotion Classification

Flow diagram



Fisher face Algorithm

Fisher Face algorithm is a dimensionality reduction technique that uses Linear Discriminant Analysis mainly used to identify the faces but here we use it to identify the emotions.



Applications

- ▶ Emotion aware Music Player
- ▶ Emotion Based Advertisements
- ▶ Assistant for patients and physically Challenged persons.
- ▶ Humanoid that detects emotions.