

## *Facial Emotion Detection*

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**Abstract:**

With this proposal, we present how to create an emotion classifier using FER2013 dataset.

FER2013 is a large, publicly available Face Expression Recognition (FER) dataset consisting of 35,887 face crops. The dataset is challenging as the depicted faces vary significantly in terms of person age, face pose, and other factors, reflecting realistic conditions. The dataset is split into training, validation, and test sets samples. All images are grayscale i.e. only 1 channel and have a resolution of 48 by 48 pixels. Basic expression labels are provided for all samples. The goal is to categorize the emotions into the following seven categories:

- Angry
- Disgust
- Fear
- Happy
- Sad
- Surprise
- Neutral

Recognizing the emotions under controlled conditions is simpler. But what makes this task challenging is to account for naturalistic conditions like different poses, illumination, etc and the fact that unposed expressions are often subtle.

**Algo:**

We will build a Convolutional Neural Networks to identify the expressions.

**Data source & references:**

Link: <https://www.kaggle.com/c/challenges-in-representation-learning-facial-expression-recognition-challenge>

This dataset was prepared by Pierre-Luc Carrier and Aaron Courville, as part of research project.