

EMOTION DETECTION FOR ADS

Roll No	Name	Contribution	GitHub URL
CB. EN. P2AIE21021	Ravula Akshita	Excel dataset	https://github.com/akshitaravula/Emotion-Detection-for-Ads
CB. EN. P2AIE21011	Dharshini S	Image Dataset	https://github.com/DharshiniS0706/Emotion-detection-for-advertisements-

KAGGLE LINK

ABSTRACT

Emotion is powerful in many ways because it can influence a decision and urge people to act. That's why it has been an effective marketing technique to inspire people to take specific and reach business milestones. The emotions are detected by facial expression. The facial expressions are classified as six universal emotions. Using deep learning we will analyze facial expressions to classify emotions.

Tools: OpenCV, Python

Objective

To analyze the emotions of the Advertisements viewers and predict the market.

DATA DESCRIPTION

The data consists of 48x48 pixel grayscale images of faces. The training set consists of 28,709 examples and the public test set consists of 3,589 examples.

Description of the feature set available in Excel sheet

1. Eyes
2. Eye Brows
3. Nose
4. Lips
5. Face Structure

Low Level - height, width, distance b/w the features

High Level - Area, Size, Region

QUESTIONS

CLASSIFICATIONS

1. Is the person angry or not?
2. Is the person happy or not?
3. Is the person sad or not?
4. Is the person disgusted or not?
5. Is the person in fear or not?
6. Is the person surprised or not?
7. Is the person neutral or not?

PREDICTIONS

1. If the person likes the product or not?
2. Is the person interested in buying the product or not?
3. The sales will increase or not?
4. How much the Ads reminds the product or brand? (Surprise/Happy)
5. To know about buying habits? (Anger)
6. If the person likes the Advertisement or not?
7. To predict the product sales? (Profit/Loss)
8. To predict if the product will be popular or not?
9. Do people want to share the experience or not?
10. How loyal is the person to the product? (Surprise and Fear)

List of Performance metrics for classification/prediction with its formula:

Performance Metric Name	Formula	Purpose
ACCURACY	$(TP+TN)/(P+N)$	The measurement used to determine which model is best at identifying relationships and patterns between variables in a dataset based on the input, or training, data.
PRECISION	$TP/(TP+FP)$	The quality of a positive prediction made by the model.
RECALL/SENSITIVITY	$TP/(TP+FN)$	A measure of the proportion of actual positive cases that got predicted as positive (or true positive).
F1-SCORE	$(2*TP)/(2TP+FP+FN)$	
SPECIFICITY	$TN/(TN+FP)$	The proportion of actual negatives, which got predicted as the negative (or true negative).

**TP-True positive, TN-True negative, FP-False positive, FN-False negative*

Deep Learning Architecture Identified for the project:

1. Architecture Details - CNN

Architecture Diagram for the project:

