**Abstract:**

Facial expression recognition is a hot research direction of pattern recognition and computer vision. In this paper, we use the customers facial expression to enhance the customer based services by using the convolution neural network. Convolution neural network (CNN) as a depth learning architecture can extracts the essential features of the image, that enables us to get feedback from users .A customized convolution neural network structure is designed which uses convolution kernel to extract implicit features. The optimal performance can be achieved by the training the neural network with elastic distortion technique and the concept of non-uniform weight sharing. The proposed idea is implemented using Raspberry pi and experimental details are provided in last section.

**Keywords:** Facial expression detection, convolution neural network, raspberry pi

**Introduction:**

The need to enhances the customer services is vital for company growth and an important factor for this is customer feedback. The conventional method of getting feedback is by filling up the feedback form which is annoying , instead the facial expression which is an important form of human inner emotional expression which is able to convey rich emotional information, together with words and sounds constitute the main way to express emotions are extracted using Convolution neutral network (CNN) which influences to improve the service.

Convolution neutral network (CNN) is a new type of neural networks, it is a combination of traditional artificial neural network and deep learning technology . The nonlinearities and preservation of dimension in CNN help to improve the robustness of the network and control overfitting..

The six basic expressions of human beings are Happy, Angry, Disgust and Sad, determine the type of recognition object [3] which we are interested to find .The performance and accuracy of my CNN model is compared with the Google cloud platform Vision API.

**PROPOSED MODEL:**