**Emotion detection from uploading images**

**System design:**

**Own Model:**

This contains 4 convolution layer, 3 Fully connected layers with Batch normalization and Relu activation function.

Reason for using batch normalization to standardize activation with Mini-batch. For stable and fast training.

Metrics and loss as below:

0/5 loss 1.7899175882339478

1/5 loss 1.8701268434524536

2/5 loss 1.646791934967041

3/5 loss 1.6177031993865967

4/5 loss 1.485414981842041

------train data set metrics------

**train accuracy: 0.44707234665087603**

**Accuracy: 0.45**

**Precision: 0.43**

**Recall: 0.45**

**F1 Score: 0.42**

------test data set metrics------

**test accuracy: 0.45723042630259125**

**Accuracy: 0.46**

**Precision: 0.45**

**Recall: 0.46**

**F1 Score: 0.43**

**Using Pretraind model:**

Resnet model used.

Pretrained model metrics:

0/5 loss 1.2694625854492188

1/5 loss 0.9608560800552368

2/5 loss 1.132839560508728

3/5 loss 1.4642375707626343

4/5 loss 0.8952125310897827

------train data set metrics------

**train accuracy: 0.6713225817687833**

**train accuracy new: 0.6713225817687833**

**Accuracy: 0.67**

**Precision: 0.68**

**Recall: 0.67**

**F1 Score: 0.67**

**Libraries used:**

from torch import nn,optim

from torchvision import models,datasets, transforms

import torch

from torch.utils.data import DataLoader

import numpy as np

import torch.nn.functional as F

from sklearn.metrics import accuracy\_score,precision\_score,f1\_score,recall\_score,classification\_report

#for Streamlit

import streamlit as st