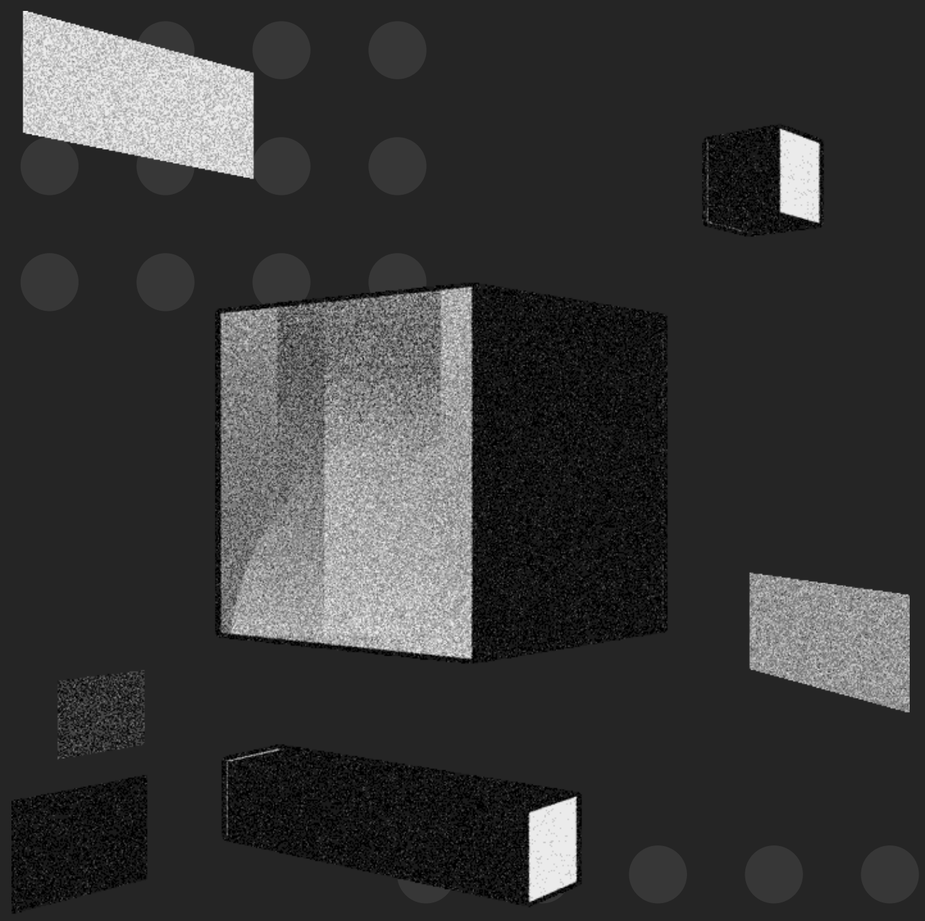
TRANSFORMING IMAGE RECOGNISION SYSTEM

Team Confusion



Presented By

Jash Jain **Kashish Jain** **Bhavya Shah** **Samveg Shah**

CURRENT SCENARIO

Bulk Training Model and Inference

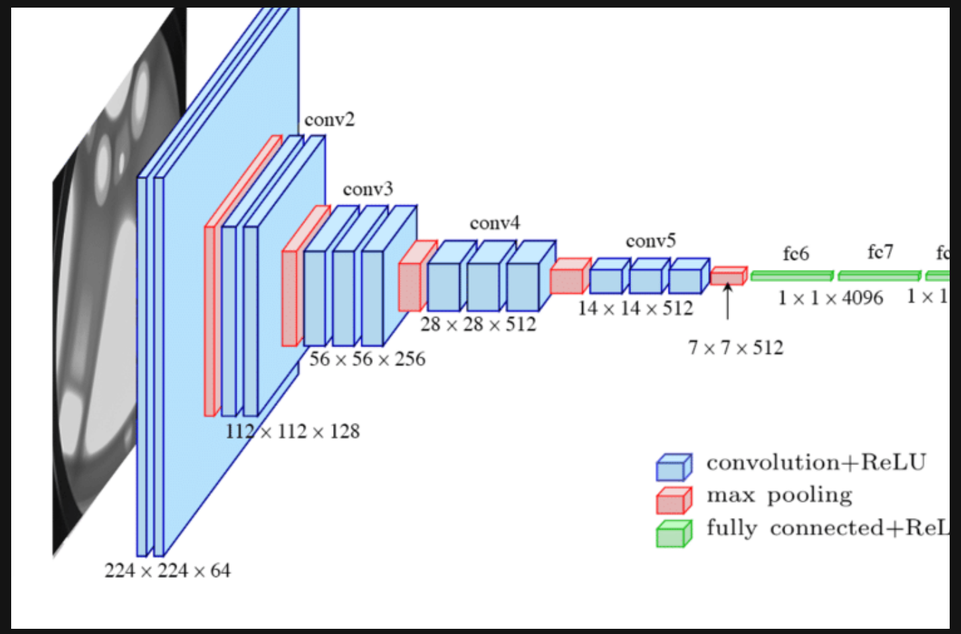
Retraining model using the given images

Training the model by changing parameters

Integration django with pytorch

PROPOSED SOLUTION

We have created a website which recognizes 6 categories of images which has been fed to the portal and predicts which image it is using transfer learning. The pytorch model has been integrated with django. The user of the website uploads n number of photos which are processed and results are generated along with their relativistic probablities .The model is retrained with the right as well as rectified entries of every user who uses the website



Techstack

Working of the Software

TRANSFER LEARNING

Training for the proposed 6 categories raather than the predefined 1000 categories

BACK PROPOGATION AND GRADIENT DESCENT

Algorithm to train the model for a defined hyperparameters

INTEGRATION

integrating the saved model and loading the same once in django

INFERENCE

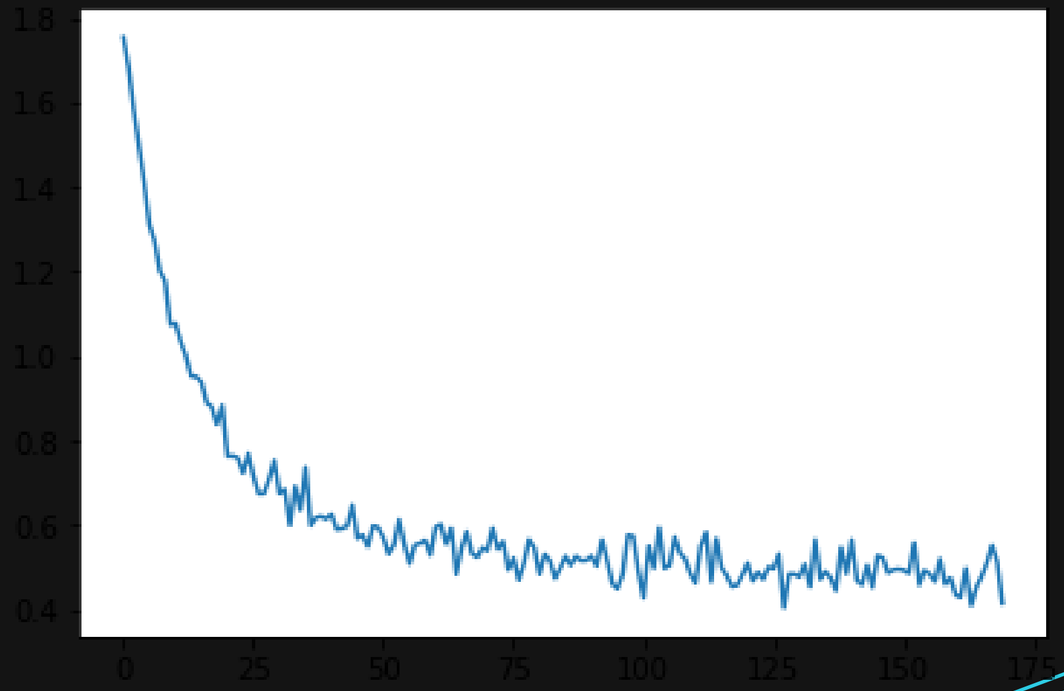
User inputs images and its corresponding results are shown

RETRAINING

The correct labels are thus sent for training purposes again to improve the model's accuracy

Accuracy

LR	EPOCH	BATCH SIZE	TEST LOSS	ACCURACY
0.001	4	32	0.467802	81%
0.005	4	32	0.411417	84%
0.005	4	64	0.441379	82%
0.001	2	64	0.592261	79%



Future Scope

HEALTHCARE

Use to predict different stages of a virus understand its growth process which helps understanding its mutation thereby helping create a vaccine

DIFFERENTLY ABLED

People who suffer from 100% blindness can use an app version of this website wherein they will click photos of obstacles in front of them and the name will be read out to them by increasing the categories of our trained models

OTHERS

If a laymen comes to our portal he can get a trained model of ML within a few seconds without him being involved in the backend complex process and provide a ready model to him with a great accuracy thereby we can monetise it

Questions?