Submitted by-

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ASTU ROLL NUMBER: 170610107063

SEMESTER: 6TH SEMESTER

COLLEGE: ASSAM ENGINEERING COLLEGE

Topic: Build an Image Classifier to classify images of CIFAR-10 Data

Duration: 2 Weeks

Problem Statement: The dataset stands for the Canadian Institute for Advanced Research (CIFAR). CIFAR Data set is widely used for machine learning and computer vision applications.

• The model should classify the images correctly with respective to its classes as mentioned below.

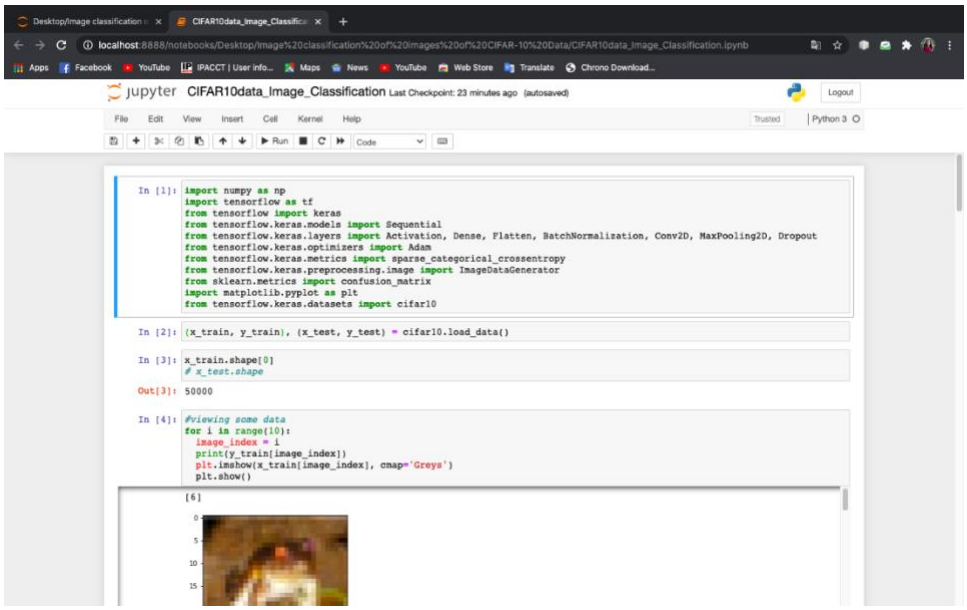
• CIFAR-10 is a dataset that consists of several images divided into the following 10 (0-9) classes respectively: Airplanes, Cars, Birds, Cats, Deer, Dogs, Frogs, Horses, Ships, Trucks

• The dataset consists of 60,000 32x32 color images, 6,000 images of each class.

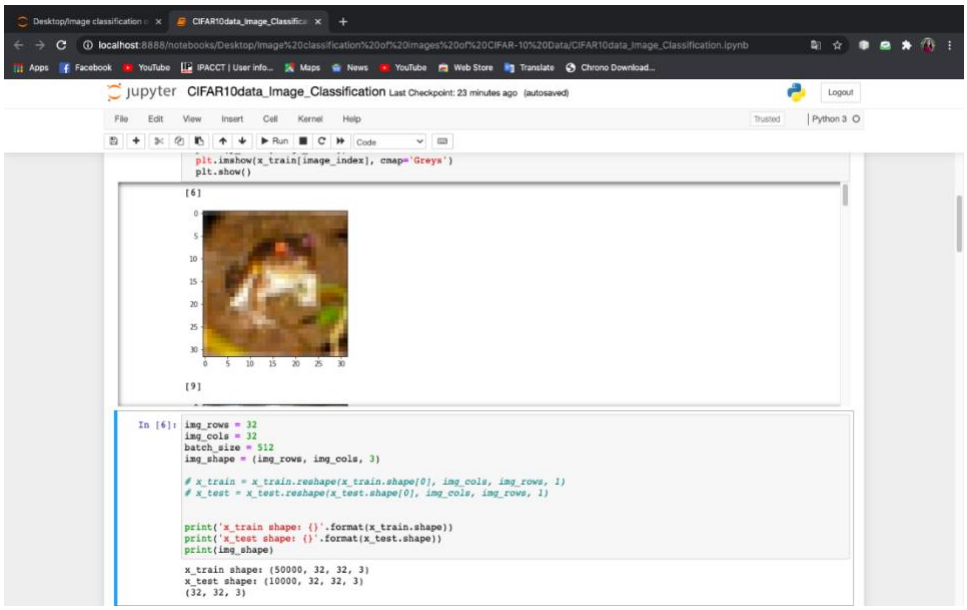
• Data Source link: https://www.cs.toronto.edu/~kriz/cifar.html

EXECUTION OF THE MODEL:

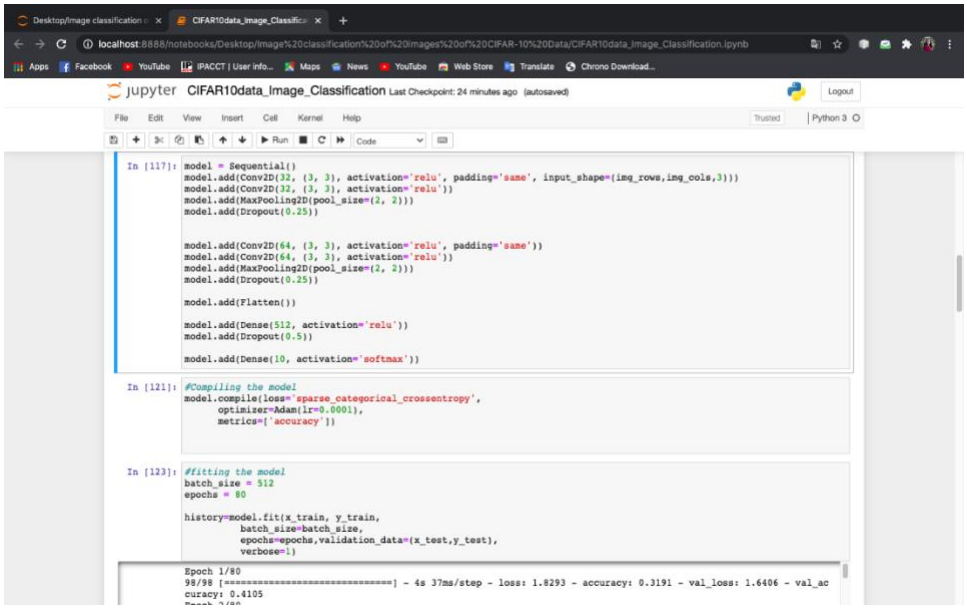
1. Importing the libraries:



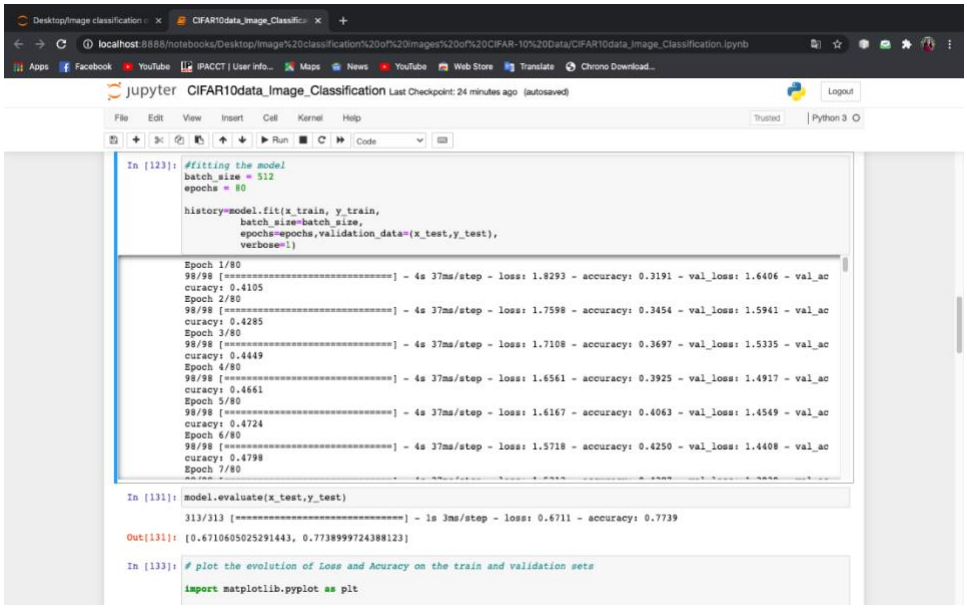
2. Viewing the data and printing the image shape:



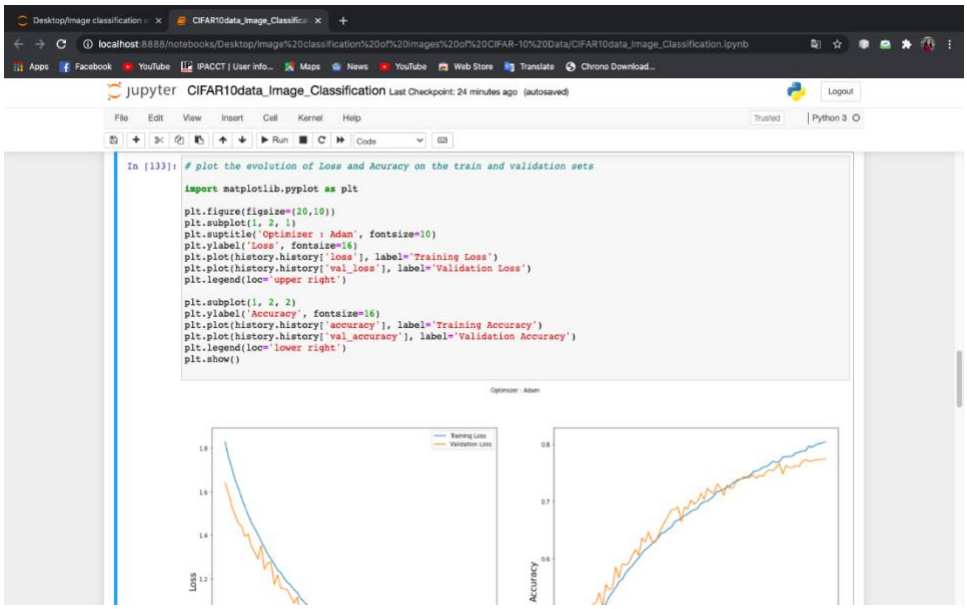
3. Compiling the model:

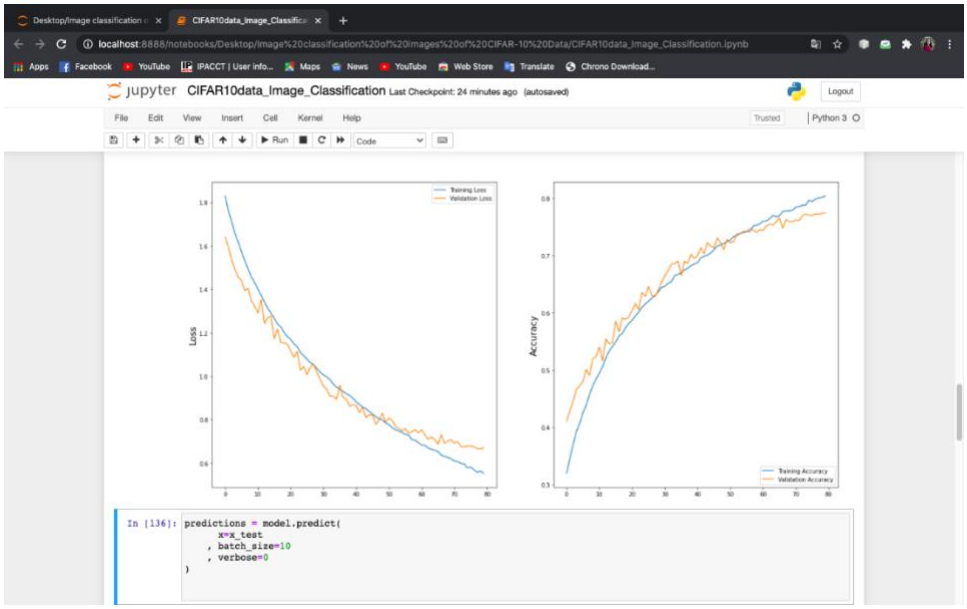


4. Fitting the model:

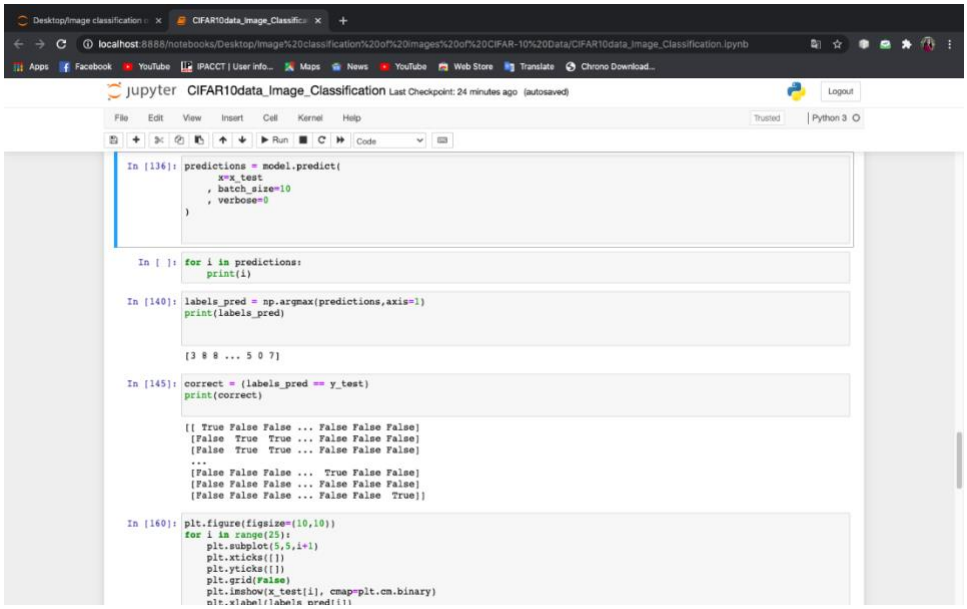


5. Plotting the evolution of Loss and Accuracy on the train and validation sets:

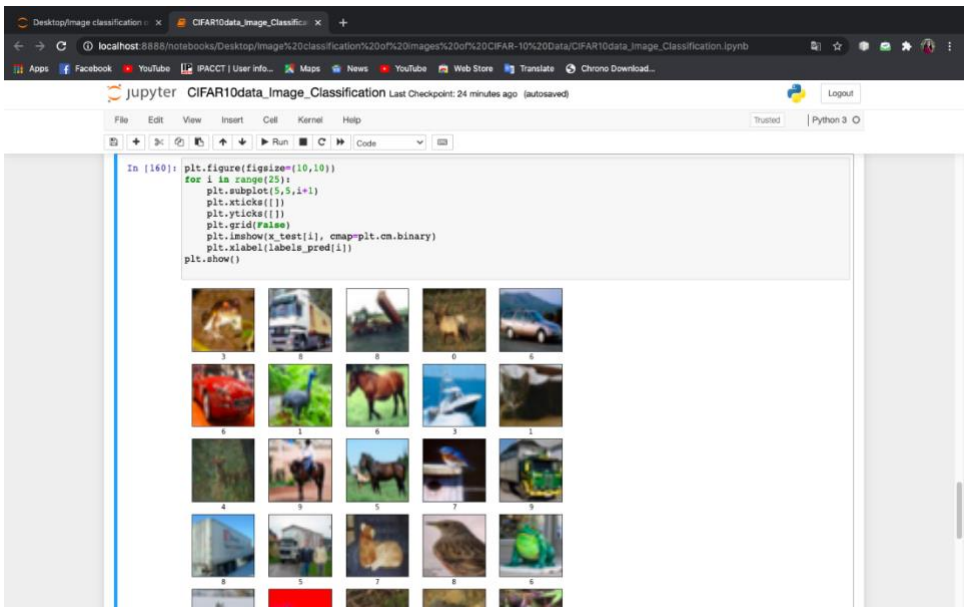


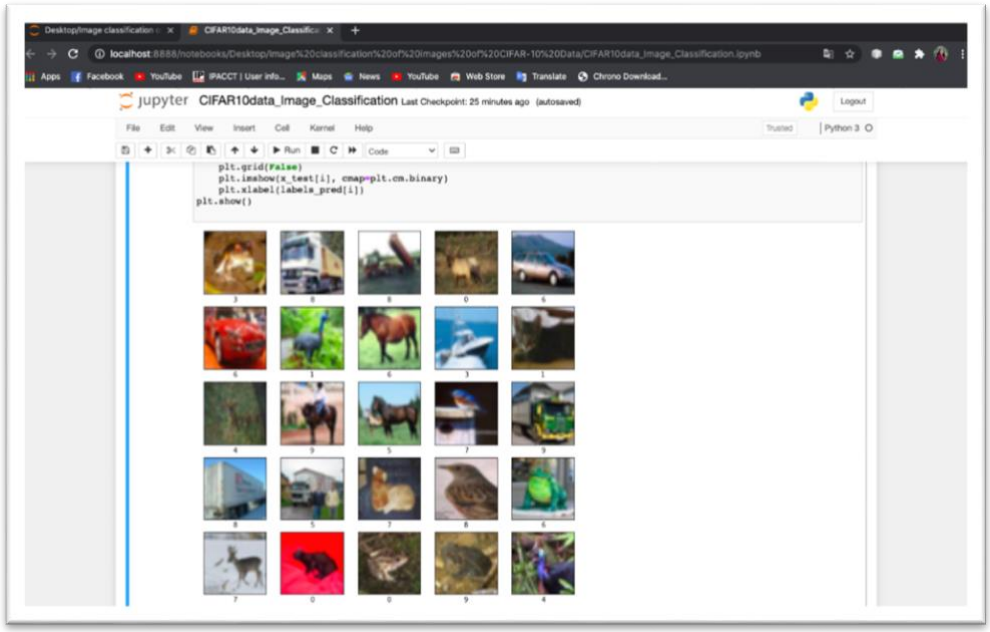


6. Model predictions:



FINAL OUTPUT-




Desktop/Image classification
CIFAR10data_Image_Classific
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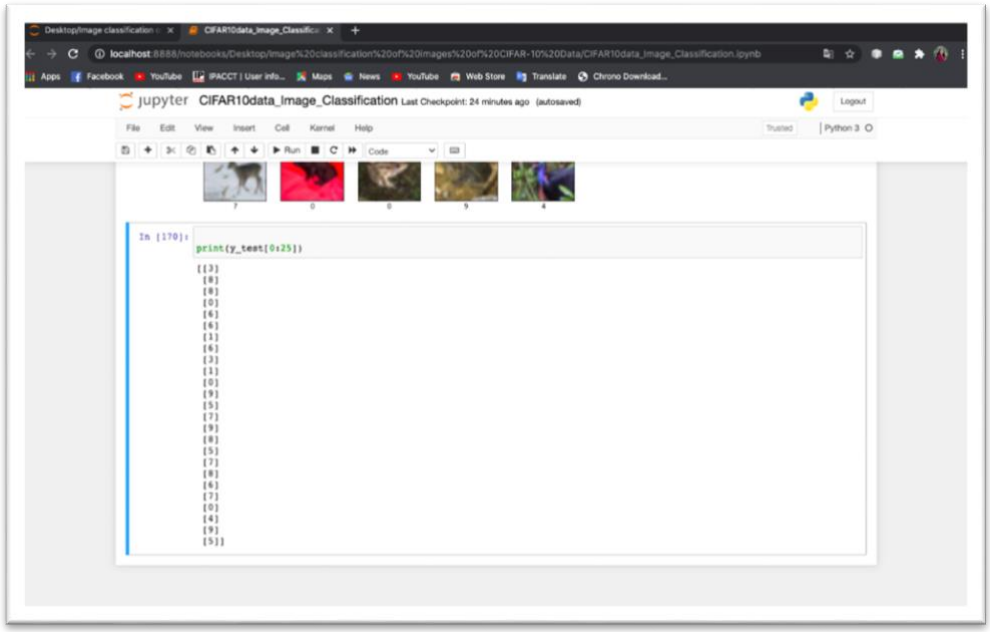
Apps
Facebook
YouTube
IPACCT | User info...
Maps
News
YouTube
Web Store
Translate
Chrono Download...
jupyter
CIFAR10data_Image_Classification
Last Checkpoint: 25 minutes ago (autosaved)
Logout
File
Edit
View
Insert
Cell
Kernel
Help
Trusted
Python 3
Run
Code
plt.grid(False)
plt.imshow(x_test[i], cmap=plt.cm.binary)
plt.xlabel(labels_pred[i])
plt.show()


Desktop/Image classification
CIFAR10data_Image_Classific
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Apps
Facebook
YouTube
IPACCT | User info...
Maps
News
YouTube
Web Store
Translate
Chrono Download...
jupyter
CIFAR10data_Image_Classification
Last Checkpoint: 24 minutes ago (autosaved)
Logout
File
Edit
View
Insert
Cell
Kernel
Help
Trusted
Python 3
Run
Code
In [170]:
print(y_test[0:25])
[[3]
[8]
[8]
[0]
[6]
[6]
[1]
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[0]
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