PROJECT PRESENTATION

ARCHITECTURE USED IN PAPER

ARCHITECTURE: CNN

Convolutional Neural Network

PAPER LINK

https://globaljournals.org/GJCST_Volume19/2-Classification-of-Image-using-Convolutional.pdf

DATASET USED IN THE PAPER

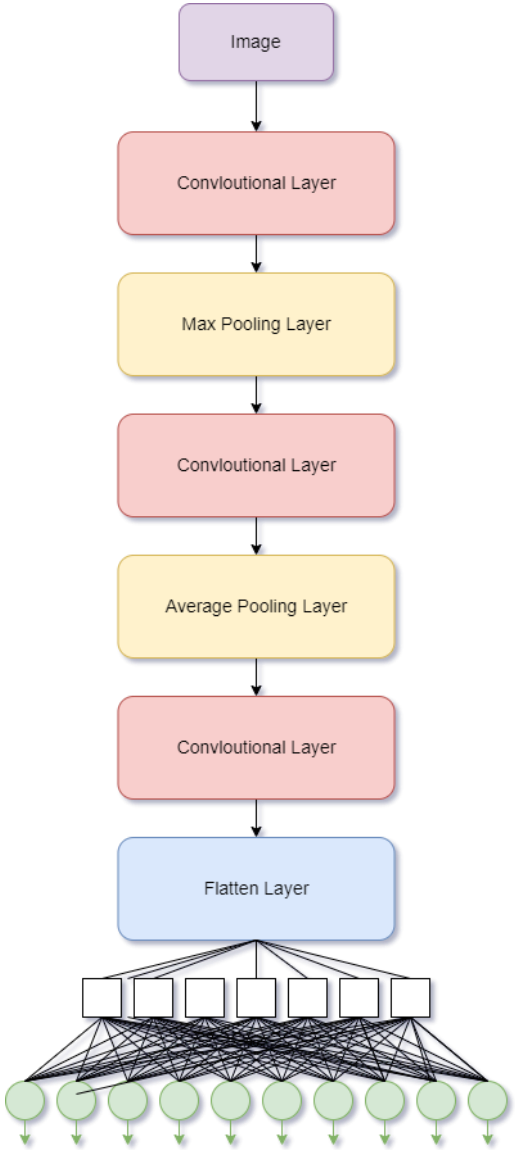
CIFAR-10

DIMENSIONS OF IMAGES

32 x 32 x 3

NUMBER OF CLASSES

10 classes



DATASET DETAILS

TRAINING SET ~ (80%)

Number of images: 251

Covid: 111

Normal: 70

Viral Pneumonia: 70

TESTING SET ~ (20%)

Number of images: 66

Covid: 26

Normal: 20

Viral Pneumonia: 20

DATASET NAME

Covid-19 Image Dataset

kaggle DATASET LINK

https://www.kaggle.com/datasets/pranavraikokte/covid19-image-dataset

TOTAL NUMBER OF SAMPLES

Total number: 317

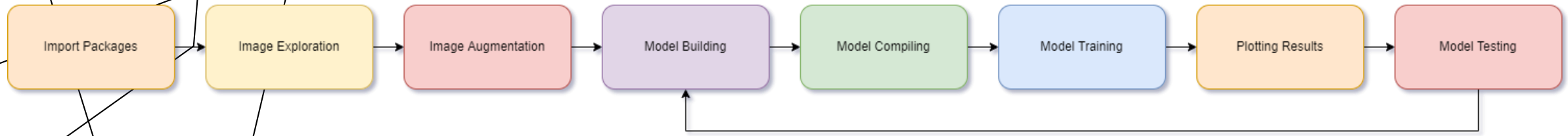
DIMENSIONS OF IMAGES

It's not constant

NUMBER OF CLASSES AND THEIR LABELS

We have 3 classes: (Covid – Viral Pneumonia – Normal)

IMPLEMENTATION DETAILS



1) IMPORT PACKAGES

Import needed packages like: NumPy,

Keras, matplotlib. Etc

2) IMAGE EXPLORATION

In this step we only show some of our images

from our 3 classes

3) IMAGE AUGMENTAION

Loading our images into a NumPy array to be able

To work with it

4) MODEL BUILDING

Building our CNN model in python

5) MODEL COMPILING

Compile our Model

6) MODEL TRAINING

Train our compiled model

7) PLOTTING RESULTS

Plotting curves like: loss, accuracy.

Plotting confusion matrix, classification report

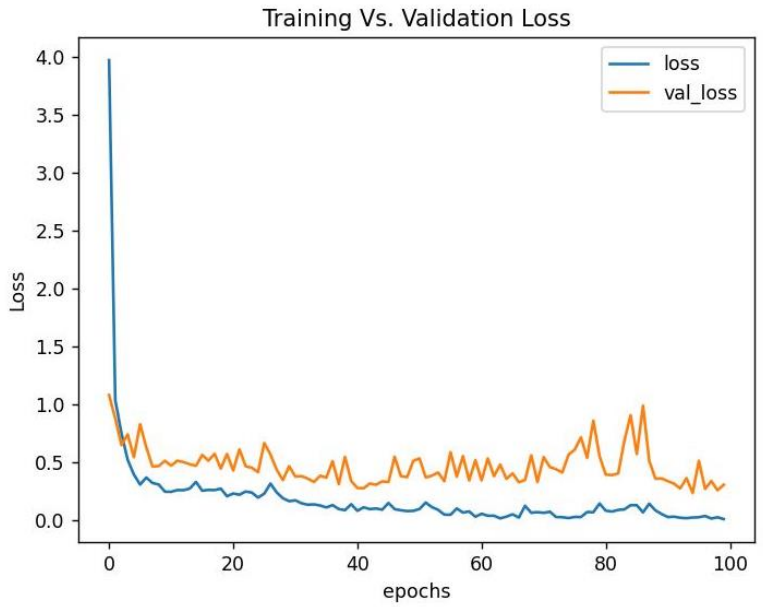
8) MODEL TESTING

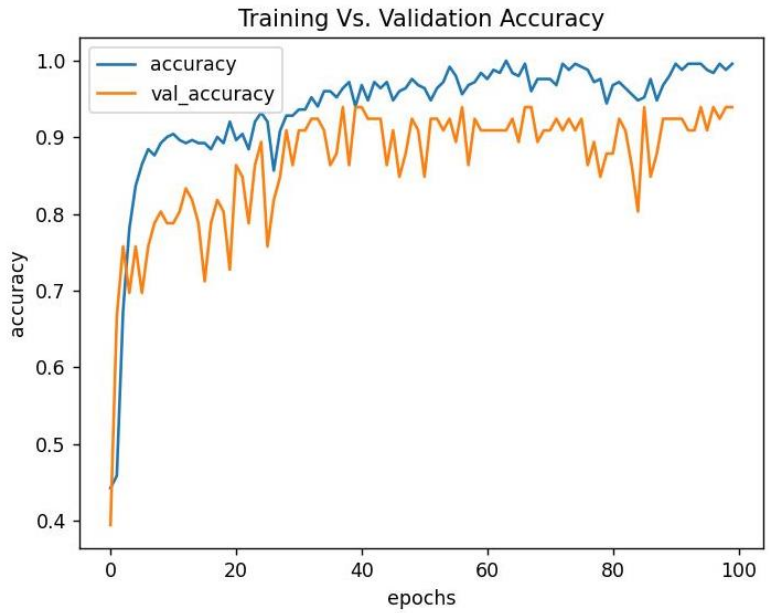
Testing our model and see if it performs

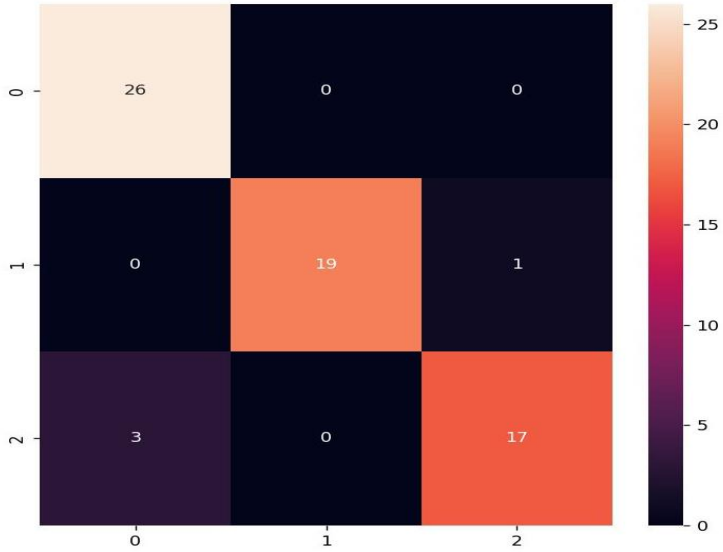
well

FULL IMPLEMENTATION DETAILS IN PROJECT DOCUMENTATION

PLOTTING RESULTS OUTPUT





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Loss: 0.306342750787735
Accuracy: 0.939393937587738
Classification Report:
                precision    recall  f1-score   support

         Covid       0.90      1.00      0.95        26
        Normal       1.00      0.95      0.97        20
Viral Pneumonia       0.94      0.85      0.89        20

      accuracy                           0.94        66
     macro avg       0.95      0.93      0.94        66
  weighted avg       0.94      0.94      0.94        66
```