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Project 2 Report

- **Sample of data**

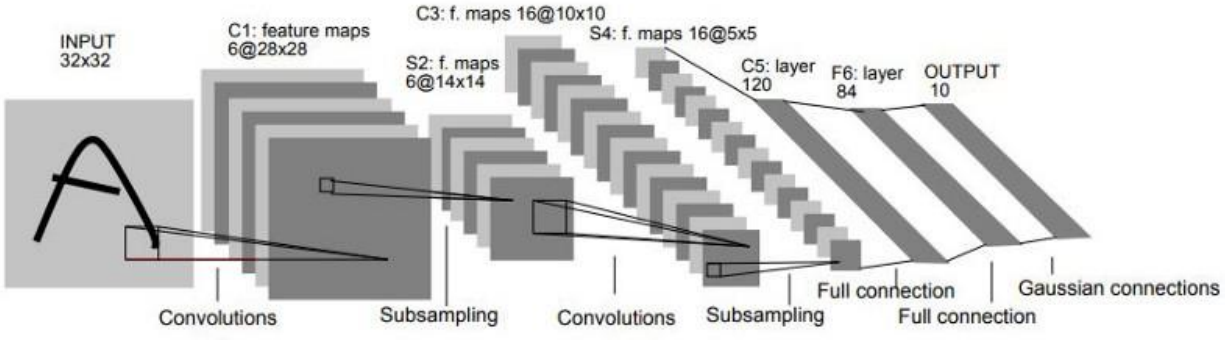
- **<u>Data consist of 60000 samples for train and 10000 samples for test</u>**

Project Walkthrough

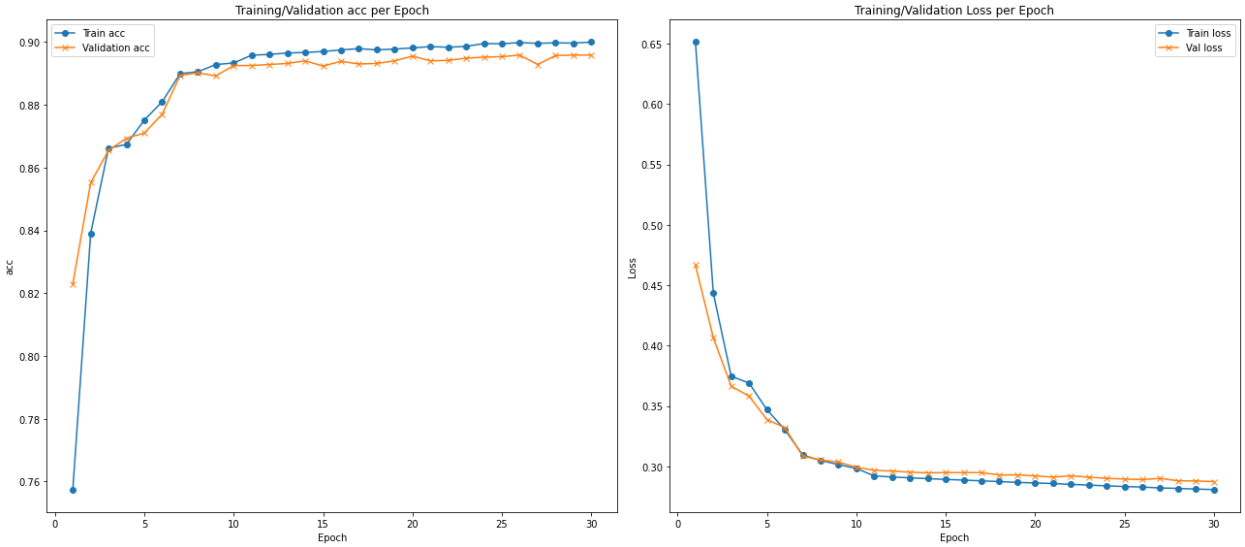
1. Importing Libraries
2. Loading the dataset
3. Visualizing the images
4. Feature pre-processing
5. Implementing LeNet Model
6. Implementing VGG Model with Transfer Learning
7. Implementing ResNet Model with Transfer Learning

5. Implementing LeNet Model:

- **LeNet architecture:**



Model param




```
loss: 0.2807 - accuracy: 0.9000 - val_
loss: 0.2874 - val_accuracy: 0.8958
```

```
Test Accuracy 88.2900%
```

- **I think this accuracy is hopeful and it will give great result if it trained more**

6. Implementing VGG Model with Transfer Learning:

- **In this model I loaded its weights**
- **freezed all its layer**
- **changed images size to be capable to be trained on VGG models weights**
- **than added some layers to be trained and to output the classes**

7.Implementing ResNet Model with Transfer Learning:

- **I did the same steps in the last model**