**In class Programming Assignment - 5**

**GitHub Link:** [**https://github.com/HarshithaBoyapati2002/nn\_icp5**](https://github.com/HarshithaBoyapati2002/nn_icp5)

**Videolink:**[**https://drive.google.com/file/d/1x\_Lh0JaJZgok-f20-HrBUiDYzH\_j6mg8/view?usp=sharing**](https://drive.google.com/file/d/1x_Lh0JaJZgok-f20-HrBUiDYzH_j6mg8/view?usp=sharing)

**Problem 1:** Image classification with CNN

**Solution:**

1. Tuning hyperparameter and make necessary addition to the baseline model to improve validation accuracy and reduce validation loss.

A screenshot of a computer program

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A close-up of a computer code

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1. The crucial aspect that influences the performance of the network is the number of layers in the network. Deep neural networks with multiple layers, also known as deep learning models, are capable of learning complex patterns and extracting higher-level features. This depth enables them to handle more sophisticated tasks and achieve higher accuracy.
2. Creating at least two more visualizations using matplotlib

A screenshot of a computer program

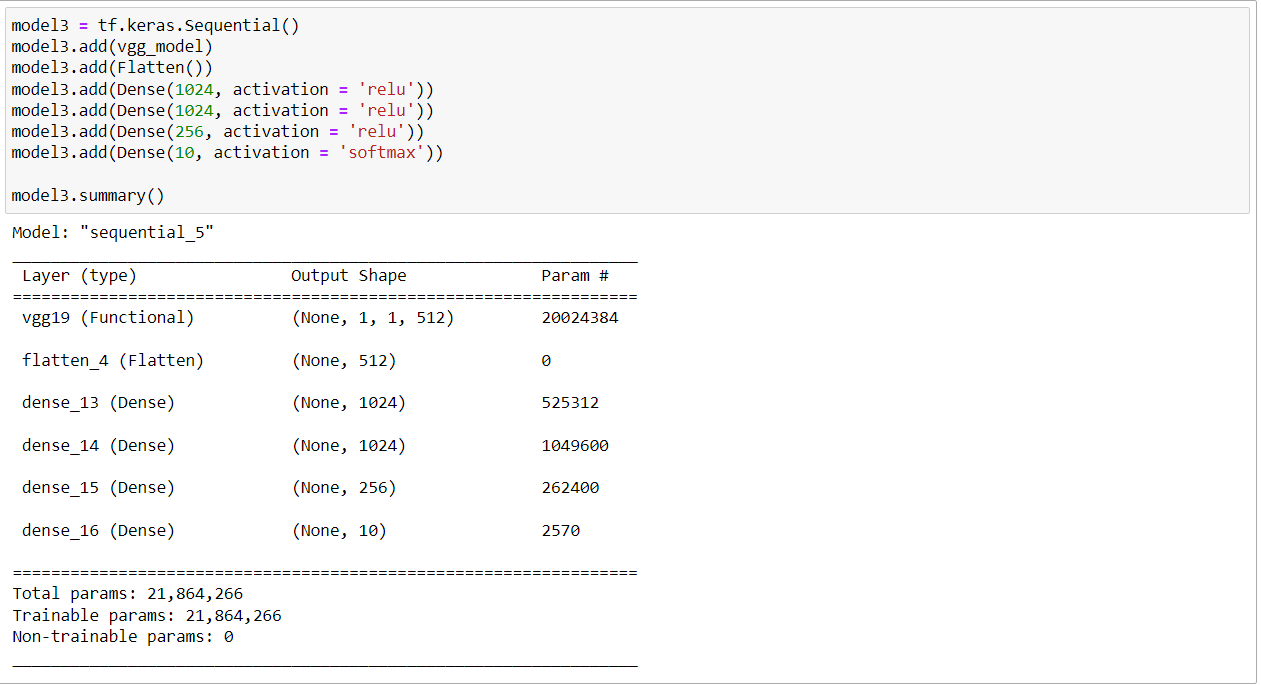
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1. Using cifer10 dataset and implementing baseline models provided.

A screenshot of a computer code

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1. Applying modified architecture to the dataset and training it.



1. Save the improved model and use it for prediction on testing data.

A computer screen shot of a code

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1. Provide plot of confusion matric.

A green and white chart with numbers and a bar

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1. Provide Training and testing Loss and accuracy plots in one plot using subplot command and history object.

A screenshot of a computer program

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