**CS5720**

**Neural Networks & Deep Learning - ICP-3**

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**GitHub Link**: <https://github.com/MadhaviMamidala/CS5720_ASSIGNMENT3_700744319>

**Use Case Description:**

Image Classification with CNN

1. Training the model
2. Evaluating the model

**Programming elements:**

1. About CNN
2. Hyperparameters of CNN
3. Image classification with CNN

In class programming:

1. Follow the instruction below and then report how the performance changed. (Apply all at once) • Convolutional input layer, 32 feature maps with a size of 3×3 and a rectifier activation function.

• Dropout layer at 20%.

• Convolutional layer, 32 feature maps with a size of 3×3 and a rectifier activation function.

• Max Pool layer with size 2×2.

• Convolutional layer, 64 feature maps with a size of 3×3 and a rectifier activation function.

• Dropout layer at 20%.

• Convolutional layer, 64 feature maps with a size of 3×3 and a rectifier activation function.

• Max Pool layer with size 2×2.

• Convolutional layer, 128 feature maps with a size of 3×3 and a rectifier activation function.

• Dropout layer at 20%.

• Convolutional layer,128 feature maps with a size of 3×3 and a rectifier activation function.

• Max Pool layer with size 2×2.

• Flatten layer.

• Dropout layer at 20%.

• Fully connected layer with 1024 units and a rectifier activation function.

• Dropout layer at 20%.

• Fully connected layer with 512 units and a rectifier activation function.

• Dropout layer at 20%.

• Fully connected output layer with 10 units and a SoftMax activation function

**Solution:**

* These are the output & result for the following:

























