Assignment - 7

GitHub link :

<https://github.com/Vicky75030/Neural-Networks/tree/main/700747503_Assignment_7>

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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

Did the performance change?

A screenshot of a computer program

Description automatically generated

Output:

A screenshot of a computer program

Description automatically generated

A screenshot of a computer

Description automatically generated

A close up of a text

Description automatically generated

1. Predict the first 4 images of the test data using the above model.

Then, compare with the actual label for those 4

images to check whether or not the model has predicted correctly.

A screenshot of a computer program

Description automatically generated

1. Visualize Loss and Accuracy using the history object



Output:

A graph of a model loss

Description automatically generated

A graph showing the performance of a model

Description automatically generated