**Day 37**

**What to do?**

Project #4 – Image classification with CIFAR-10 dataset. Build only Neural Networks not CNNs.

**Dataset:**

CIFAR-10 from keras package.

**Process:**

The data has been preprocessed and was passed to two different models.

* 3-layer network (Flatten -> 1024 neurons with relu -> dropout regularization of 0.2 -> 512 neurons with relu -> dropout regularization of 0.2 -> 10 neurons with softmax). The network has been compiled with Adam optimizer and sparse categorical cross entropy loss function. The model has been trained with 25 epochs and mini – batches of size 100.
* 4-layer network (Flatten -> 1024 neurons with relu -> dropout regularization of 0.2 -> 512 neurons with relu -> 128 neurons with relu -> 10 neurons with softmax). The network is compiled with SGD optimizer and sparse categorical cross entropy loss function. The model has been trained with 25 epochs and mini – batches of size 100.

**Results:**

* Training accuracy: 9.97%; Testing accuracy: 10%
* Training accuracy: 60.86%; Testing accuracy: 53.94%