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Deep Learning UT-II

Problem Statement:

Perform classification using deep learning convolution network. Compare and comment on the result by using different Kernel size and activation functions.

Solution:

Dataset Used-CIFAR10

*Here the accuracy is given for the test data

Activation Function used	**Kernel Size use**	**Accuracy**
RELU	(3,3)	0.7041000127792358
RELU	(5,5)	0.6808000206947327
RELU	(7,7)	0.5953999757766724

It is seen that as the kernel size is increasing the accuracy is decreasing

Tanh	(3,3)	0.6523000001907349
Tanh	(5,5)	0.6349999904632568
Tanh	(7,7)	0.5824000239372253

It is seen that with 'Tanh' ,the accuracy is decreased with the kernel size (3,3) and also goes on decreasing as the kernel size is increased

SoftMax	(3,3)	0.4537000060081482
SoftMax	(5,5)	0.5108000040054321
SoftMax	(7,7)	0.4887999892234802

It is seen that with 'Softmax',the accuracy is further decreased as compared to 'relu' and 'tanh'.But the accuracy is increased for kernel size (5,5) but then again decreased for the kernel size (7,7).

We can consider the kernel size (3,3) and the activation function 'relu' as we are getting highest accuracy