भारतीय प्रौद्योगिकी संस्थान तिरुपति

TIRUPATI

Deep Learning

Programming Assignment 1

Submitted By
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Problem statement:

In this problem MNIST data set is given which contain some handwritten numerical number from 0 to 9 .We have to use pixel of an image as a feature and find eucledian distance and find KNN for different values of K such as 1,3,5,7,9,11 etc .We apply KNN to identify the class of the test data .In second case we use histogram as a feature and eucledian distance To identify the class of test data .

Let A and B be the 2 vector . There eucledian distance is as follows
eucledian distance =sqrt(sum(A-B).^2)

Result:

Inference:

Here initially accuracy will increase as we increase the value of K and then the accuracy will decrease .

Result:

Confusion matrix, without normalization
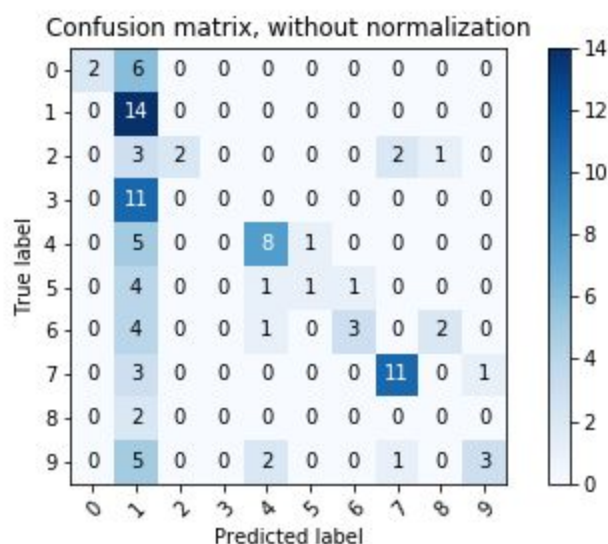
Inference:
As we increase the value of K accuracy will decrease.

Problem statement:

In this problem CIFAR10 data set is given which contain some colour image .We have to use histogram as a feature and find eucledian distance and find KNN for different values of K such as 1,3,5,7,9,11 etc .We apply KNN to identify the class of the test data .

Result:

Confusion matrix, without normalization