

Lab-Exp.4: k-NN Classifier

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Apply **k-NN classifier** for performing training and testing processes on your dataset and evaluate the classifier by considering the evaluation metrics such as *Accuracy*, *Precision*, *Recall*, *F1-Score*, *Specificity*, *Sensitivity* and *Serendipity*.

Task 1: The workflow of the k-NN for your dataset is also to be uploaded

Task 2: The following results need to be given:

1. Time analysis for training dataset by considering the different number of k values (4 values) and different sizes (20%, 40%, 60%, 80% and 100%)
2. Time analysis for testing dataset (30%) by considering the different number of k values (4 values).
3. Prepare a performance analysis as follows:

Training:

Training Dataset	Precision	Recall	F1-score	Specificity	Sensitivity	Serendipity	Accuracy
20%							
40%							
60%							
80%							
100%							

Testing (30%): Each experiment must consider different k values

Experiments	Precision	Recall	F1-score	Specificity	Sensitivity	Serendipity	Accuracy
E1							
E2							
E3							
E4							
E5							