Assessment 3-MACHINE LEARNING

WINTER SEMESTER 2022 - 23, CSE4020

1. Write a program to implement k-Nearest Neighbour algorithm to classify the iris data set.Print both correct and wrong predictions.
2. Train SVM classifier using sklearn digits dataset(i.e from sklearn datasets import load_digits)and then
    a. Measure accuracy of your model using different kernels such as rbf and linear.
    b. Tune your model further using regularization and gamma parameters and try tocome up highest accuracy score.
    c. Use 80% of samples as training data size.
3. Build an Artificial Neural Network by implementing the Back propagation algorithm and test the same using appropriate data sets.
4. Bagging Ensembles including Bagged Decision Trees, Random Forest and Extra Trees.
5. Boosting Ensembles including AdaBoost and Stochastic Gradient Boosting.
6. Voting Ensembles for averaging the predictions for any arbitrary models.