

School of Computer Science Engineering and Technology
Assignment-06

Course- B.Tech	Type- Core
Code- 23CS106	Course Name- Artificial Intelligence & Machine Learning
Year- 2024-2025	Semester- Even, Instructor: Prof. E.L.N. Kiran
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1 Implement the K Nearest Neighbor Classification using Classified Manufacturing Dataset

Part 1 – Import the required Python, Pandas, Matplotlib, Seaborn packages

1. Load the classified dataset into a dataframe using `pandas`
2. Check the data types of each feature(column) in the dataset.
3. Generate a summary of the dataset for `min`, `max`, `stddev`, `quartile` vales for 25%,50%,75%,90%,
4. List the names of columns/features in the dataset
5. Scale the features using `StandardScaler` and transform the data

Part 2 – Model training and Fit the data to Model

1. Split the data generated from list created as `X`, `Y` is distributed using `train_test_split` function as `X_train`, `Y_train`, `X_test`, `Y_test`
2. Apply the KNN Classifier model of `sklearn.neighbors` import `KNeighborsClassifier` package
3. Fit the data to the Classifier Model using `fit`.

Part 3 – Evaluate the Classification Quality

1. Generate the confusion matrix to estimate the correction among features
2. Generate the classification report using `classification_report`