Indian Institute of Technology Madras

ID5055 Foundations of Machine learning

Tutorial III

Due date: 8.00 pm, September 07, 2023

Instruction

1. Assignment shall be submitted on the due date. Late submissions will not be entertained. If you cannot submit the assignment due to some reasons, please contact the instructor by email.
2. All the assignments must be the student's own work. The students are encouraged to collaborate or consult friends. In the case of collaborative work, please write every student's name on the submitted solution.
3. If you find the solution in the book or article or on the website, please indicate the reference in the solutions.

Problems

1. Using the given test data report the best rand index and mutual information score for all the above discussed algorithms. Also report the silhouette score.
2. Explain the ambiguity in Silhoutte Scores.
3. Explore and Compare Linkage Techniques (Optional).

```python
import numpy as np

data = np.load("test_data.npy", allow_pickle=True).item()
# Data is a DICT with keys --- "data" and "labels"
X, labels = data["data"], data["labels"]
```

Listing 1: Snippet to load the dataset.