

Student Name: Tran Thi Hanh
Student ID: 11201381



Machine Learning 2

Assignment 2

1. Question Number 4: Compare PCA and t-SNE

No	PCA	t-SNE
1	Linear dimensionality reduction technique.	Non-linear dimensionality reduction technique.
2	Preserve global structure	Preserve local structure
3	Not involve Hyperparameters	Involves Hyperparameters such as perplexity, learning rate and number of steps
4	Gets highly affected by outliers	Can handle outliers
5	Deterministic algorithm	Non-deterministic or randomised algorithm
6	Rotating the vectors for preserving variance.	Minimising the distance between the point in a gaussian
7	We can find decide on how much variance to preserve using eigen values	We cannot preserve variance instead we can preserve distance using hyperparameters.