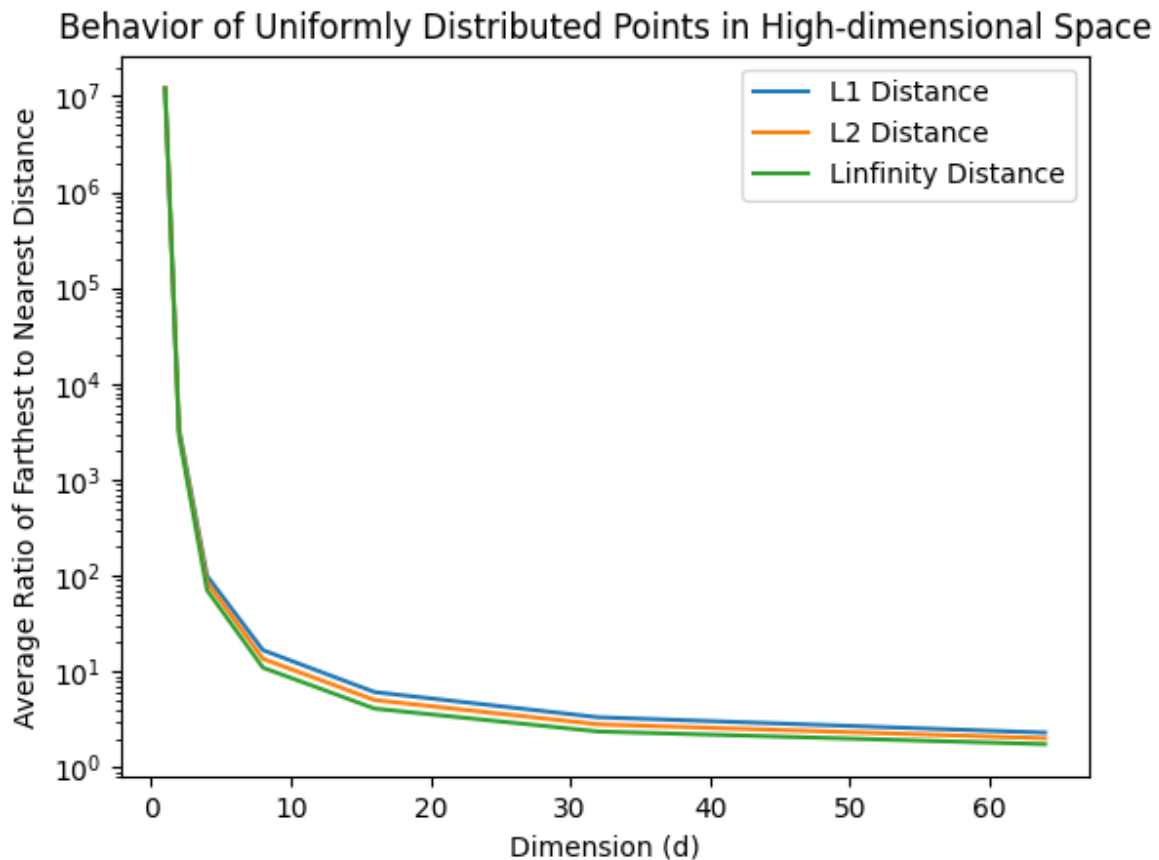


REPORT

Q1



This graph is a demonstration of the curse of dimensionality.

As the number of dimensions increases, the amount of data needed to fill the space grows exponentially. All the L_i distances between all points become almost the same as the dimensions increase. We can observe from the graph that the ratio of farthest to nearest distances becomes 1 as dimensions increase. So for large dimensions all point

would be at nearly the same distance from each other. So unsupervised learning would not work if we use these L-norm distances.

Q2

The baseline model linear regression gave Root Mean Squared Error (RMSE) on validation set as 1.088.

We have implemented a GAT model for linear regression which gave a RMSE score on validation set around 0.75 which is better than the baseline model.

The baseline model logistic regression gave a ROC value of 0.56

We have implemented a GAT model for logistic regression which gave a ROC score of 0.72.