

Reflection Report

In the current Knn classifier homework, the fraud detection dataset is used where class 1; 1 in the class, is considered as fraud. As a homework, performance comparison of two different test sizes and determining the best K value is done.

There is only two test split options in the homework and the result comparison of performance is not much varied, so, I have also done the additional options of 10% test size and 50% test size to test if there are any extreme changes in the performance and resulting there are only small increases and decreases in the performance. When it comes to the ROC curves, I have seen some curvy shape curves but the curve in the exercise is not clearly curved and looks for difference curves. After comparing them with examples online, I learned that ROC curves can vary in shape depending on the model's quality and class distribution. In order to determine the best result, different `n_neighbours` are used to observe how it affects the performance of the model and also learn how the Elbow Method performs.

Overall, the homework allowed me to explore the usage of different tuning and methods in order to improve the performance.