

Anomaly detection

The goal of this homework is to implement a simple anomaly detector and observe the effect of its hyperparameters on the accuracy of the method.

Instructions

1. Load normal samples (`normal.csv`) and anomalous samples (`anomalous.csv`) from directory `breast-cancer-wisconsin`.
2. Split normal data to training and testing part. Anomalous data are used only in the testing part. That means, the training part contains only normal samples.
3. Implement anomaly detector based on k -nearest neighbor as was presented in lecture.
4. Plot an ROC curve for a given detector for various k .
5. Visualize, to which part of the space the detector assigns high / low anomaly score using heatmap.