Vincent Mackenna
CS422 - 1001
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Assignment 6 - KNN

The dataset you used, its source and characteristics.

I used a dataset from UCI's Machine Learning Repository that observed features about data measured using a Wavelet Transform tool from images that were taken from genuine and forged banknote-like specimens **[1]**.

The characteristics include:

- variance of Wavelet Transformed image (continuous)
- skewness of Wavelet Transformed image (continuous)
- curtosis of Wavelet Transformed image (continuous)
- distance to the nearest mass rapid transit station (meter)
- number of convenience stores in the living circle on foot (integer)
- entropy of image (continuous)
- class (integer)

The data preprocessing steps you took (if any).

I did not make any alterations to the data.

Metrics as determined by my attached python script:

Testing Set

KNN with 1 num of neighbors
Accuracy: 1.0
Sensitivity: 1.0
F1 Score: 1.0
Specificity: 1.0
Log Loss: 9.992007221626415e-16

KNN with 2 num of neighbors
Accuracy: 1.0
Sensitivity: 1.0
F1 Score: 1.0
Specificity: 1.0
Log Loss: 9.992007221626415e-16

KNN with 10 num of neighbors
Accuracy: 1.0
Sensitivity: 1.0
F1 Score: 1.0
Specificity: 1.0
Log Loss: 9.992007221626415e-16

Training Set

KNN with 1 num of neighbors
Accuracy: 1.0
Sensitivity: 1.0
F1 Score: 1.0
Specificity: 1.0
Log Loss: 9.992007221626415e-16

KNN with 2 num of neighbors
Accuracy: 1.0
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KNN with 10 num of neighbors
Accuracy: 1.0
Sensitivity: 1.0
F1 Score: 1.0
Specificity: 1.0
Log Loss: 9.992007221626415e-16

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[1] https://archive.ics.uci.edu/ml/datasets/banknote+authentication