Nahi Khan
CISC 3440 Machine Learning
Professor McNeill
2 October 2023

Homework 2

Problem 3: Short Answer

1. No, accuracy is not an appropriate performance measure to use for Problem 1. This is because the LeaveOrNot doesn't have a straightforward answer, hence accuracy cannot be a good determiner for the usefulness of the model. It is a predicting model, not a classification model.

2. The choice of evaluation criteria in problem 2 was based on k-nearest neighbors alongside the usage of grid search with binary classification. This is because we were trying to find where the pixels were most dense / concentrated, so we had to call functions that hyperparameterized to that.

3. I would use ordinal encoding because the sizes are comparable, as some sizes are greater than others.

4. We should evaluate the classifier that is tasked with determining whether a section of subway train railing is dangerously out of alignment using recall. This means the classifier should be designed and evaluated to minimize the risk of missing dangerously out-of-alignment rail sections, even if it results in some false alarms. Since safety is the top priority, this is the way to prevent accidents.

5. We should evaluate the binary classifier that is tasked with determining whether a visitor is likely to read an article for the purpose of recommending content on a website using precision. This is because precision will measure the accuracy of the positive predictions made by the classifier. This ensures that recommendations made to users are more accurate, and hence more efficient use of server resources.