

MACHINE LEARNING Assignment 1 Report

110062219

October 25, 2023

1 Why Log Probability is Used in the Implementation of Bayes Classifier

Log probability is common in computer science. It improves *numerical stability*, lest when directly computing the product of probabilities, the value may become too small and thus *underflow*.

2 Differences Between Naïve Bayes Classifier and Gaussian Naïve Bayes Classifier

Ordinary Naïve Bayes Classifier is suitable for discrete, categorical features, whereas Gaussian Naïve Bayes Classifier is apt at continuous, numerical data, based on the supposition that data are under normal distribution.

3 Difficulty Encountered

In the beginning, I was a bit anxious about Bayes Classifier since I haven't taken the PROBABILITY course yet.

4 Solutions & Reflections

Thanks to the template provided by TA, I was able to fill in the TODO blanks and successfully complete the Naïve Bayes Classifiers without taking so long as I previously presumed.

Meanwhile, I have gained more concrete comprehension of Naïve Bayes Classifiers and their theories during the implementation.