

Assignment 1

CS4104 Applied Machine Learning

Deadline: 11th October 2021

Question 1

Implement K nearest neighbours algorithm from scratch and apply on any three datasets of the uci library. Apply the KNN from sklearn on the same selected set of three datasets. Compare the outputs of the custom developed KNN and KNN from sklearn.

Question 2

Implement Naive Bayes algorithm from scratch and apply on any three datasets of the uci library. Apply the Naive Bayes from sklearn on the same selected set of three datasets. Compare the outputs of the custom developed and sklearn Naive Bayes.

Question 3

Apply the decision tree classifier on the following dataset provided in table 1. Compute the class of the last four elements in the table 1.

1. <https://archive.ics.uci.edu/ml/datasets.php>,
2. <https://archive.ics.uci.edu/ml/machine-learning-databases/>

Table 1:				
Student Id	Marks >50	Attendance >50	Subjects >20	Grade(S/U)
P181234	1	1	1	S
P180001	1	1	0	S
P180002	0	1	1	U
P180003	1	0	0	S
P180004	0	1	1	U
P180005	1	0	1	S
P180006	1	1	1	S
P180007	0	0	0	U
P180007	0	0	1	U
P180008	1	1	1	?
P180009	0	1	1	?
P180010	1	0	0	?
P180011	0	1	1	?