COMP4432 Mock Quiz

Submission deadline: 3:30pm, 2 Feb 2024

Hi, Fu Lai Korris. When you submit this form, the owner will see your name and email address.

1. The kNN algorithm can be used for (1 Point)

- ○ Classification
- ○ Regression
- ◉ Both classification and regression
- ○ None of the above

Both classification and regression. kNN classification can be carried out by taking the majority class of the k nearest neighbors. kNN regression can be carried out by computing the average value of the k nearest neighbors.

2. The kNN algorithm requires more computation for model construction when the training dataset becomes large. (1 Point)

- ○ True
- ◉ False
- ○ Not enough information to determine

False. kNN is a lazy learning method. There is no need to run a kNN model construction program. Large dataset will require more computation only in the model usage process.

3. For the BigTip classification problem on slide16 (More kNN Examples...) of the kNN lecture notes, classify new data (z, mediocre, no, no, high, no) using kNN using k=2. (1 Point)

- ○ Yes
- ○ No
- ◉ Yes/No
- ○ Undetermined

Similarity(z, 1)=1 match
Similarity(z, 2)=2 match
Similarity(z, 3)=4 match
Similarity(z, 4)=0 match
The 2 nearest neighbors are ID=3 and ID=2 whose class labels are No and Yes respectively. So, the classification of z should be Yes/No. However, “Undetermined” is also acceptable. If we also take into consideration of the similarity score ID3 and ID=2, ID3 is a closer neighbor and hence it can be weighted more to produce a “No” output. Basically, all answers except the first one will be marked as coorect.

Some statistics for your reference:

COMP4432 Mock Quiz

39	0	Active
Responses	Average Score	Status

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1. The kNN algorithm can be used for (1 point)

More Details

Classification	6
Regression	1
Both classification and regression	31
None of the above	0

2. The kNN algorithm requires more computation for model construction when the training dataset becomes large. (1 point)

More Details | Insights

True	24
False	13
Not enough information to dete...	1

3. For the BigTip classification problem on slide16 (More kNN Examples...) of the kNN lecture notes, classify new data (z, mediocre, no, no, high, no) using kNN using k=2. (1 point)

More Details

Yes	4
No	18
Yes/No	13
Undetermined	4