CSE519 Quiz 23

Total points 6/7

This quiz is set to analyze your basic understanding about the last lecture of the course. Be sure to answer all questions carefully because this will be graded.

The respondent's email address (**aditya.choudhary@stonybrook.edu**) was recorded on submission of this form.

Section score 6/7

✓ In the given calculation for euclidean distance, which of the following is logical to do if x and y are not comparable and do not follow normal distribution? * 1/1

$$d(x,y) = \sqrt{\sum_{i=1}^{d} |x_i - y_i|^2}$$

- ○ Apply a min-max normalization before computing distance
- ○ Apply a log transformation before computing distance
- ○ Apply z-score normalization before computing distance
- ◉ Apply log transformation followed by the z-score normalization before computing the distance ✓

✓ Which of the following option(s) holds true for a Voronoi Diagram in 2 dimensions? * 1/1

- ☑ We can construct the Voronoi diagram in n*log(n) time ✓
- ☑ We can find the nearest neighbor in log(n) time ✓
- ☐ We can locate the nearest neighbor in 2^n time
- ☐ We can construct the Voronoi diagram in n^2 * log(n) time

✓ What effect can be seen in the classifier boundaries in a k-NN classifier when k is increased gradually from 1? * 1/1

- ○ Changing 'k' will not have any effect
- ◉ The classifier may tend to have a more linear boundary ✓
- ○ The boundaries may tend to form k clusters
- ○ The classifier may tend to have a more non-linear boundary

✓ In interpolation by NN, the weighted averaging schemes can value points differently according to which of the following factors? * 1/1

- ○ Distance rank
- ○ Actual distances
- ◉ Both of them ✓
- ○ None of them

✗ Why is it not wise to consider the cheapest airfare as a distance metric? (One or more correct) * 0/1

- ☐ It does not satisfy the positivity property
- ☐ It does not satisfy the symmetry property
- ☑ It does not satisfy the triangle inequality property ✓
- ☐ It does not satisfy the identity property

Correct answer

- ☑ It does not satisfy the symmetry property
- ☑ It does not satisfy the triangle inequality property

✓ Which of the following is/are NOT true regarding the Euclidean distance? * 1/1

- [x] It weighs all dimensions unequally ✓
- [x] It is a general form of L_k distance norms where k = 3 ✓
- [ ] It is a general form of L_k distance norms where k = 2
- [ ] It weighs all dimensions equally

✓ Which of the following properties must be satisfied by a distance function? * 1/1

- [x] d(x,y)>=0 for all x, y ✓
- [x] d(x,y)<=d(x,z)+d(z,y) ✓
- [x] d(x,y)=0 iff x=y ✓
- [x] d(x,y)=d(y,x) ✓
- [ ] d(x,y)>=d(x,z)+d(z,y)