Quiz Submissions - mini-Quiz 3

Hans Christian Godballe Lundberg (username: s174852)

Attempt 3

Written: 12 May, 2022 6:56 PM - 12 May, 2022 6:57 PM

Submission View

Your quiz has been submitted successfully.

Question 1 **1 / 1 point**

Which of the following algorithms requires as input explicit matches between point pairs from two point clouds BEFORE it starts executing?

- ✓ (•) Kabsch algorithm
- ( ) Spin Images
- ( ) FPFH
- ( ) ICP

Question 2 **1 / 1 point**

Please select the correct among the following statements concerning the Iterative Closest Points (ICP) algorithm:

- ✓ [x] ICP works best if an initial rough estimation of the alignment of 2 point clouds is known.
- ✓ [x] ICP provides a rigid transformation between 2 point clouds
- ✓ [ ] ICP provides an affine transformation between 2 point clouds
- ✓ [ ] ICP works best if the 2 point clouds are far from each other.
- ✓ [ ] ICP is guaranteed to provide the optimal transformation that best aligns 2 point clouds

Question 3 **1 / 1 point**

Which of the following clustering results could have been produced using k-means?
(choose all correct answers)

A:

B:

C:

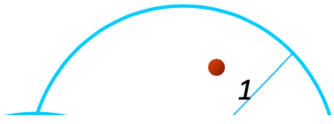
D:

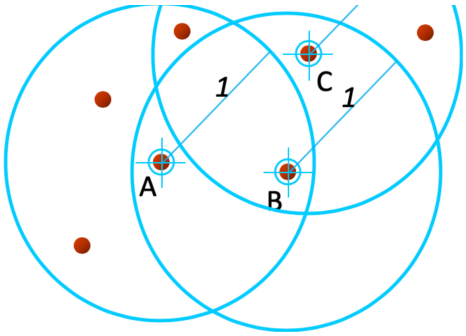
E:

- ✓ [ ] A
- ✓ [ ] B
- ✓ [x] C
- ✓ [ ] D
- ✓ [x] E

Question 4 **1 / 1 point**

Consider the following points.





How would points A, B and C be characterized according to DBSCAN?
(assume ϵ=1 and *MinPts*=4)

- A: core | B: border | C: border
- A: core | B: noise | C: core
- A: noise | B: border | C: noise
- A: noise | B: border | C: core
- A: noise | B: core | C: noise
- A: border | B: noise | C: border
- A: core | B: core | C: core
- ✓ A: core | B: border | C: core

Question 5 **1 / 1 point**

Consider a color image with dimensions 640x480 pixels. We would like to cluster its pixels making full use of both geometric and color information (including intensity/lightness).

How many clusters will the Mean Shift algorithm consider initially?
(provide the exact number below)

Answer: 307200 ✓

Question 6 **1 / 1 point**

Consider a color image with dimensions 640x480 pixels. We would like to cluster its pixels making full use of both geometric and color information (including intensity/lightness).

What would be the dimensionality of the problem in this case?

- ✓ 5
- 4
- 2
- 3

Attempt Score:100 %
Overall Grade (highest attempt)**:**100 %

Done