

Quiz Submissions - mini-Quiz 4



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Attempt 1

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Submission View

Your quiz has been submitted successfully.

Question 1

0.2 / 1 point

Which of the statements below are correct for PCA?
(choose all that apply)

- ☐ PCA relies on the calculation of eigenvectors and eigenvalues
- ☐ the PCA output describes the significance of each of the original features
- ☐ PCA dictates how many dimensions need to be retained
- ☐ PCA in a 5-dimensional space can create exactly 5 new features.
- ☐ PCA is a dimensionality reduction technique

Question 2

0 / 1 point

A SVM draws lines, planes or hyper-planes in the features' space. As a result, it can only treat problems that are linearly separable in the original space.

- ☐ True
- ☐ False

Question 3

1 / 1 point

Consider a classification problem where there are 2 classes. Class "A" contains 26 unique instances, while class "B" contains 5 unique instances.

What is a suitable value for " k " of a k -NN classifier that can correctly classify new instances?

✓ ☒ We don't have enough information to define k

☐ $k=5$

☐ Any value of k equal to, or greater than 5 is suitable.

☐ $k=2$

☐ Any value of k between 5 and 26 (including 5 and 26) is suitable.

Question 4

1 / 1 point

Please rate the following approaches to Relative Pose Estimation in terms of expected accuracy.

(1 being best and 3 worst)

✓ 3 1

1. 3D to 3D

✓ 1 3

2. 3D to 2D

✓ 2 2

3. 2D to 2D

Question 5

0 / 1 point

Concerning Relative Pose Estimation, please match the problem to the solution

✓ 2 3D to 2D Relative Pose Estimation

1. ICP

✗ 1 (3) 2D to 2D Relative Pose Estimation

2. PnP

✗ 3 (1) 3D to 3D Relative Pose Estimation

3. Essential Matrix

Question 6

0 / 1 point

Assume that you just run a PnP solver with:

- some 3D points in World Coordinates and,
- The same points in the Image Coordinate of your current camera pose.

The result was:

rvec = [-0.05, -1.51, -0.00]

tvec = [87.39, -2.25, -24.89]

Assuming that you perform stereo reconstruction on the camera you get an **interest point P** in location $X,Y,Z = [-6.71, 0.23, 21.59]$ in camera coordinates.

What would be the the location of the **interest point P** in world coordinates?

☐ 96.75, -1.98, 40.71

✖ ☐ 96.75, 40.71, -1.98

☐ -1.98, 96.75, 40.71

➡ ☒ 40.71, -1.98, 96.75

Attempt Score:36.67 %

Overall Grade (highest attempt):36.67 %

Done