Quiz Submissions - mini-Quiz 4

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Attempt 3

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Submission View

Your quiz has been submitted successfully.

Question 1 **1 / 1 point**

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

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

Question 2 **1 / 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?

- ( ) Any value of *k* between 5 and 26 (including 5 and 26) is suitable.
- ✓ (•) 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

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)

✓	2	2	1. 3D to 3D
✓	1	3	2. 3D to 2D
✓	3	1	3. 2D to 2D

Question 5 **1 / 1 point**

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

✓	3	2D to 2D Relative Pose Estimation	1. ICP
✓	2	3D to 2D Relative Pose Estimation	2. PnP
✓	1	3D to 3D Relative Pose Estimation	3. Essential Matrix

Question 6 **1 / 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, 40.71, -1.98
- ( ) 96.75, -1.98, 40.71
- ( ) -1.98, 96.75, 40.71
- ✓ (•) 40.71, -1.98, 96.75

Attempt Score:100 %

Overall Grade (highest attempt):100 %

Done