Started on	Monday, 1 February 2021, 2:30 PM
State	Finished
Completed on	Monday, 1 February 2021, 2:35 PM
Time taken	4 mins 12 secs
Grade	**9.55** out of 10.00 (**95**%)

Question **1**

Correct

Mark 3.00 out of 3.00

Select the most appropriate statement regarding epipolar constraint. If you see multiple correct answers, choose the most generic statement.

Notations and Assumptions:

1. The two images: Image1 and Image2 are of the same rigid world.
2. Line1 denotes a line on Image1 and Line2, that on Image2.
3. Point x1 lies in Image1 and x2 lies in Image2, where both are images of the same world point X.

a. All the points in Image1 will map to a single line in Image2, where the corresponding points can be found.

b. For every point x1 in Image 1, there exists a pair of lines: Line1 passing through x1 and Line2 in Image2 such that; every point on Line1 will have its corresponding point on Line2 ✔

c. For every line in Image1, there exists a line in Image2, where the point correspondences are constrained to.

d. None of the other statements are true

e. For every point x1 in Image1, its correspondence has to lie on a specific line, Line2 in Image2

Your answer is correct.

The correct answer is:
For every point x1 in Image 1, there exists a pair of lines: Line1 passing through x1 and Line2 in Image2 such that; every point on Line1 will have its corresponding point on Line2

Question **2**

Partially correct

Mark 4.55 out of 5.00

The physical location of two cameras are related as follows: Camera 2 is rotated by -45 degrees about Y axis (points in the world are rotated by +45 degrees) w.r.t camera1. Camera2 is then translated by 1 unit along x axis (points in the world move by -1 along x axis). The essential matrix for the camera pair is given by: e11 = 0 ✔ , e12= 0 ✔ , e13= 0 ✔ , e21= -0.707 ✖ , e22= 0 ✔ , e23= 0.707 ✔ , e31= 0 ✔ , e32= -1 ✔ , e33= 0 ✔ .

Notes:

- If points in the world are first rotated and then translated, the resultant position is obtained by RX+T, where R is the rotation matrix and T is the translation vector.
- Sqrt(2) = 1.4142
- Sin(45) = Cos(45) = 1/sqrt(2) = 0.7071
- Write your matrices as exact numbers (e.g., 1/sqrt(2)) and finally convert to decimal.

Question **3**

Correct

Mark 2.00 out of 2.00

Which of the following are true (possibly multiple statements are true):

- [ ] a. Epipolar constraint does not apply in the weakly calibrated case
- [ ] b. None of the others
- [x] c. In a stereo pair, all epipolar lines of an image pass through a single point called an epipole ✔
- [ ] d. The epipolar lines can never be parallel
- [x] e. Every epipolar lines in one image has a one-to-one correspondence with an epipolar line in the second image ✔

Your answer is correct.

The correct answers are: In a stereo pair, all epipolar lines of an image pass through a single point called an epipole, Every epipolar lines in one image has a one-to-one correspondence with an epipolar line in the second image

◄ Lecture 08: In Class Quiz (ODD)

Jump to...

Lecture 09: (ODD): Depth from Stereo ►