Lesson Quiz

Answer the following questions to test your knowledge of the concepts and techniques taught in this lesson.

Note: Some of the questions are based on the lab associated with this lesson , so make sure you have explored and run the lab.

Question 1

1/1 point (graded)

Histogram of Oriented Gradients (HoG) is an algorithm for creating which of the following?

Choose one

- (•) A feature descriptor ✔
- ( ) An object classifier
- ( ) An object detector
- ( ) An image pyramid
- ( ) An object detector.

Explanation

The Histogram of Oriented Gradients (HOG) algorithm creates a feature descriptor.

Submit You have used 1 of 1 attempt

Answers are displayed within the problem

Question 2

1/1 point (graded)

10	10	10	9	110
10	13	12	11	246
10	9	247	246	248
248	248	248	248	250
250	250	250	254	255

Given the grayscale intensity values shown in the diagram, use the HOG kernels to calculate the magnitude at the selected pixel.
Choose the closest answer.

- 12.3
- 3.4
- 6.0
- 8.2 ✔
- 2.5

$\Delta x = 2, \Delta y = 8. Magnitude = \sqrt{\Delta x^2 + \Delta y^2} = \sqrt{4 + 64} = 8$

Submit You have used 1 of 1 attempt

Answers are displayed within the problem

Question 3

1/1 point (graded)

10	10	10	9	110
10	13	12	11	246
10	9	247	246	248
248	248	248	248	250
250	250	250	254	255

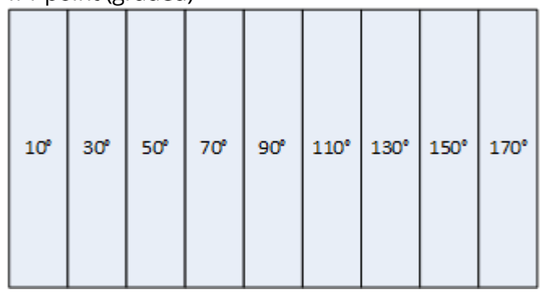
Given the grayscale intensity values shown in this diagram, use the HOG kernels to calculate the angle at the selected pixel in degrees.
Choose the closest value below

- 53.13 degrees.
- 76.0 degrees. ✔
- 67.8 degrees.
- 36.9 degrees.
- 66 degrees.

Submit You have used 1 of 1 attempt

Question 4

1/1 point (graded)



Given an angle of 38 degrees, and a magnitude of 147, and given the bin centers shown in the diagram, what bins will the magnitude get interpolated into?
Choose one answer, and ensure that the bin getting the largest share of the magnitude will be first

- Bins 3 and 2
- Bins 2 and 3 ✔
- Bins 3 and 4
- Bins 4 and 3
- Bins 1 and 2
- Bins 2 and 1

Explanation
147 * 12/20 = 88.2 into the closer bin (bin 2) and 147 * 8/20 = 58.8 into the further away bin (bin 3).

Submit You have used 1 of 1 attempt

Answers are displayed within the problem

Question 5

1/1 point (graded)
The following is a question based on the lab in this lesson. How many faces did our Viola-Jones detector find in its original configuration?

Choose one

- 7
- 8
- 3
- 5 ✔
- 2

Explanation
It finds 5 faces, including 2 false positives.

Submit You have used 1 of 1 attempt

Answers are displayed within the problem

Question 6

1/1 point (graded)
The following is a question based on the lab in this lesson. How many faces does our Viola-Jones detector find if we change `minNeighbors` to 1?
Choose one

- 7
- 8
- 6 ✔
- 5
- 2

Explanation
It finds just the 6 real faces, with no false positives.

Submit You have used 1 of 1 attempt

Answers are displayed within the problem

Question 7

1/1 point (graded)
The following is a question based on the lab in this lesson. Which setting of `winStride` generates the most HOG detections?:
Choose one

- (1, 1) ✔
- (2, 2)
- (3, 3)
- (4, 4)
- (5, 5)

Explanation
A setting of (1,1) slides the detector window by the smallest amount, giving it the greatest chance of making extra detections.

Submit You have used 1 of 1 attempt

Answers are displayed within the problem

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