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Course outline

About NPTEL

How does an NPTEL online course work?

Week 0

Week 1

- Course Introduction
- History
- [Optional] Image Formation
- Image Representation
- Linear Filtering
- Image in Frequency Domain
- [Optional] Image Sampling
- Lecture Slides
- Practice: Week 1 : Assignment 1(Non-Graded)
- Quiz: Week 1: Assignment 1
- Week 1 Feedback Form : Deep Learning for Computer Vision
- Week 1: Solution

Week 2

Week 3

Week 4

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Books

Problem Solving Session - July 2024

Week 1: Assignment 1

The due date for submitting this assignment has passed.

Due on 2024-08-07, 23:59 IST.

Assignment submitted on 2024-07-28, 11:46 IST

Instructions:

- Starter code for this assignment is provided in **DL4CV-Assignment-1- Week-1-2024.ipynb.**
- Use Python 3.x to run the notebook. As instructed in the notebook, write your code only in between the lines 'YOUR CODE STARTS HERE' and 'YOUR CODE ENDS HERE'.
- Do not change anything else in the code; if you do, the answers you are supposed to get at the end of this assignment might be wrong.
- Read documentation of each function carefully.
- All the best!

1) For this question, please see Question 1 in the iPython notebook (.ipynb file) provided alongside. Complete your implementation under the "YOUR CODE STARTS HERE" segment therein. Which of the following options correctly provides the standard deviation of row-wise means and the row-wise means themselves? ***1 point***

- 1.23, [3.875, 8.375, 13.575]
- 3.45, [3.375, 8.875, 13.375]
- 4.08, [3.375, 8.375, 13.375]
- 4.24, [3.875, 8.875, 13.875]

Yes, the answer is correct.
Score: 1
Accepted Answers:
4.08, [3.375, 8.375, 13.375]

2) For this question, please see Question 2 in the iPython notebook (.ipynb file) provided alongside. Complete your implementation under the "YOUR CODE STARTS HERE" segment therein. Which of the following pairs represents the largest eigenvalue and its corresponding eigenvector? ***1 point***

- Eigenvalue: 0.78568026, Eigenvector: $\begin{bmatrix} -0.75578934 \\ 0.52065737 \\ -0.39711255 \end{bmatrix}$
- Eigenvalue: 3.53918887, Eigenvector : $\begin{bmatrix} 0.63178128 \\ 0.73923874 \\ -0.23319198 \end{bmatrix}$
- Eigenvalue: 4.67513087, Eigenvector : $\begin{bmatrix} -0.17214786 \\ 0.42713229 \\ 0.88765034 \end{bmatrix}$
- Eigenvalue: 4.67513087, Eigenvector: $\begin{bmatrix} -0.75578934 \\ 0.52065737 \\ -0.39711255 \end{bmatrix}$

Yes, the answer is correct.
Score: 1
Accepted Answers:
Eigenvalue: 4.67513087, Eigenvector : $\begin{bmatrix} -0.17214786 \\ 0.42713229 \\ 0.88765034 \end{bmatrix}$

3) For this question, please see Question 3 in the iPython notebook (.ipynb file) provided alongside. Complete your implementation under the "YOUR CODE STARTS HERE" segment therein. Which of the following is the sum of the elements in the modfied list obtained after applying the function? ***1 point***

- 1.03
- 1.00
- 1.50
- 3.02

Yes, the answer is correct.
Score: 1
Accepted Answers:
1.03

4) For this question, please see Question 4 in the iPython notebook (.ipynb file) provided alongside. Complete your implementation under the "YOUR CODE STARTS HERE" segment therein. Now, which of the following is the **GBR** representation of the **RGB** image '**golden retriever.jpg**' in programming question 1? ***1 point***

a)

c)

b)

d)

- a
- b
- c
- d

Yes, the answer is correct.
Score: 1
Accepted Answers:
b

5) For this question, please see Question 5 in the iPython notebook (.ipynb file) provided alongside. Complete your implementation under the "YOUR CODE STARTS HERE" segments therein. The shape of the '**human mitosis**' image after applying a 5 × 5 mean filter is: ***1 point***

- (512,512)
- (510,510)
- (508,508)
- (507,507)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(508,508)

For this question, please see Question 6 in the iPython notebook (.ipynb file) provided alongside. Complete your implementation under the "YOUR CODE STARTS HERE" segments therein. The median value of the **'human mitosis'** image before and after applying the 5 × 5 mean filter is _____ and _____ respectively

6) 1.____

10.0

Yes, the answer is correct.
Score: 0.5

Accepted Answers:
(Type: Numeric) 10

0.5 points

7) 2.____

10.0

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 10.28

0.5 points