

Computer vision

Midterm

Date: 11.10.2023

Name:

Surname:

Group:

1. Please, answer questions below:

- 1.1. Please, describe difference between classification and semantic segmentation.
- 1.2. Given a RGB image with 1080x1920 resolution. Please, calculate the size of your input vector.
- 1.3. What is a Regularization?

2. Please, calculate forward propagation and backpropagation for the formula given below. Also, draw the graph and show analytical solution (derivative) for backpropagation.

$$f(x, y, z) = (x+y)*z$$

$$x = -4, y = 10, z = -8$$

3. Please, apply max pool with 3x3 filters and stride 1 for the matrix given below. Show each step of your solution.

1	1	2	4	5
6	7	8	9	3
3	4	1	0	4
1	2	4	5	6
7	8	9	1	2