

Computational Photography (CSCI 3240U) — In-class Exercise

Please hand in this paper to the instructor before the end of the lecture.

Lastname (PRINT):

Firstname:

Student number:

Date:

Q. Consider the following image, use Taylor’s Series to compute $(\frac{\partial I}{\partial x}, \frac{\partial I}{\partial y})$ and $(\frac{\partial^2 I}{\partial x^2}, \frac{\partial^2 I}{\partial y^2})$ at pixel (3,3). We use two neighbours on each side to compute the required derivatives.

Top left corresponds to pixel location (0,0)

7	13	12	10	10	13	7	12
8	7	36	41	44	35	11	14
12	44	82	83	83	77	44	13
12	38	79	80	80	75	41	13
11	36	81	76	83	82	43	8
13	42	85	83	79	85	38	10
11	9	35	45	39	44	8	14
13	12	10	13	11	10	10	8