# ICE3111 – Computer Vision – Lab 6 – Lab report

(worth 25% of Assignment 2)

Deadline: 17/11/2021 at 23:59

* Your name: \_\_\_\_\_\_\_\_\_\_\_\_\_
* Your user ID: \_\_\_\_\_\_\_\_\_\_\_\_\_

**NOTE: When you add a listing in a report, you must format it properly!** - Use a monotype font so that it is easily readable (e.g. Lucida Sans Console or Courier New). This means that all letters take up the same space on the page; - Indent the code; and - Use (colour) syntax highlighting. - Show line numbers (optional)

**NOTE: I want you to provide the command line arguments to show the effects of various parameters.**

# 1. Read a video from the webcam [15 marks in total]

* Evidence of testing [3 marks]

| Screenshot 1 | Screenshot 2 | Screenshot 3 |
| --- | --- | --- |
| REPLACE WITH YOUR OWN IMAGE | REPLACE WITH YOUR OWN IMAGE | REPLACE WITH YOUR OWN IMAGE |

* Add your source code below [11 marks]
  + Make sure the code is commented to explain what it is doing.
  + **DO NOT FORGET TO ADD A PREAMBLE** [1 mark].

# 2. Save a video [15 marks in total]

* Evidence of testing [3 marks]

| Screenshot of the command line | Screenshot of the file in the file explorer | Screenshot of the file playing in a video player |
| --- | --- | --- |
| REPLACE WITH YOUR OWN IMAGE | REPLACE WITH YOUR OWN IMAGE | REPLACE WITH YOUR OWN IMAGE |

* Add your source code below [11 marks]
  + Make sure the code is commented to explain what it is doing.
  + **DO NOT FORGET TO ADD A PREAMBLE** [1 mark].

# 3. Read a video from a file [15 marks in total]

* Evidence of testing using 3 different video files [3 marks]

| Screenshot 1 | Screenshot 2 | Screenshot 3 |
| --- | --- | --- |
| REPLACE WITH YOUR COMMAND LINE | REPLACE WITH YOUR COMMAND LINE | REPLACE WITH YOUR COMMAND LINE |
| REPLACE WITH A SCREENSHOT | REPLACE WITH A SCREENSHOT | REPLACE WITH A SCREENSHOT |

* Add your source code below [11 marks]
  + Make sure the code is commented to explain what it is doing.
  + **DO NOT FORGET TO ADD A PREAMBLE** [1 mark].

# 4. Motion detection [55 marks in total]

* Evidence of testing [20 marks]. You are free to format this section as you wish as long as it is appropriate and:
  + You provide the command line used for each test.
  + You must test your code with the 3 images I provided.
  + You must provide screenshots of background, foreground, and foreground\_mask.
    - You may use imwrite to save the background.
  + You must demonstrate how the threshold value affects the result of the motion detection.
* Discuss the pros and cons of our current implementation [20 marks]
  + What works well, what doesn’t
  + What does happen when the lighting condition changes? How could we address this problem?
  + Real images always contain a bit of noise. How does it matter? How could we address this problem?
  + Any other issue?
* Add your source code below [14 marks]
  + Make sure the code is commented to explain what it is doing.
  + **DO NOT FORGET TO ADD A PREAMBLE** [1 mark].