**Department of Electrical and Computer Systems Engineering**

**Monash University**

**TRC3500 Sensors and Artificial Perception**

**Calculating Blob Statistics: Marking Guidelines**

**Part 1: Demonstration (3 marks)**

Submit a maximum 3-minute video of your project demonstrating the following:

1. (1.5 marks) For the images “circle\_fish\_star\_01.jpg” and “circle\_fish\_star\_02.jpg”: Correctly shows the centres of mass and angles for all the blobs superimposed on the image.
2. (1.5 marks) For the image “components\_02.jpg”: Labels the similar components with a unique letter, and prints the counts of similar components it finds on the console window.

**Part 2: Report (4 marks)**

Submit a two-page (maximum) report that addresses the following questions:

1. (2 marks) In any language, write code to display a series of blobs that will allow you to measure the orientation discrimination threshold of your system.
2. (1 mark) Point the webcam at your screen while running the program above to collect data, then analyse the results of the script in (1) and state, with a psychometric plot, the performance threshold. If you did not complete 2.1, you may sketch a hypothetical answer to this question for part marks.
3. (1 mark) Outline something you could change to improve the performance of your system and why it will help.

**Part 3: Unmarked, mandatory**

Complete the use of Generative AI declaration and include it with your submission.

**(Total 7 marks)**

Each submission should include:

* .mp4 demo recording (< 500mb, < 3min)
* .pdf/.docx report
* script file with your code from 2.1
* .pdf/.docx AI declaration