

e-Yantra Robotics Competition (eYRC-2016)

Task 1 - Launch a Module

Let us start learning Image processing. The topic of image processing is vast, so we start from basics and learn some preliminary concepts. Please note that you need to learn the concepts in a self-learning mode; using the resources that are provided and/or other resources. You may find this self-learning mode intimidating initially but you will soon fall in love with it and will find it very useful in your academic and professional life.

The objective of this task is to help you:

- Read and display an image
- Recognize objects of different colors by applying color space and image thresholding techniques
- Differentiate between objects based on size and shape using image moments and contour detection

Please find the following folders within the folder that contains this Read Me file. The folders have been numbered.

1. **Resources:** You will find *Reading_Material.pdf* file in this folder. This file consists of pointers to relevant tutorials and practice exercises.
2. **Task_Description:** Please find the *Task1_Description.pdf* file in this folder. This file contains a description of the task and the problem statement.
 - Teams are expected to understand the problem and use image processing to find a solution.
 - The solution must be in the form of a Python script file (.py). Teams are given a code snippet which they modify to solve the given problem.

Submission Instructions:

Teams upload their solutions as follows:

- Please save the modified code file in the folder Task_1.
- Compress the folder into zip format. Upload the **Task_1.zip** on the Portal.
- The deadline for uploading the solutions to Task 1 is given on portal.

Warning:

- **IMPORTANT:** The document you submit should be YOUR work in YOUR WORDS. To avoid any copyright violations, you must NOT copy phrases directly from manuals or web.
- The team should NOT mail or upload the document anywhere else, except on the portal.

- Teams failing to submit the document by the deadline will lose the marks for this task.
- e-Yantra WILL NOT entertain any request for extension of deadline for uploading the task.
- e-Yantra holds complete discretion to disqualify a team if any foul play is suspected.

