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Indian Institute of Technology, Jodhpur

Lab Manual

Sensors and IoT

LAB - 7

Date: 16 Nov, 2024

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Lab Objective

To set up and run OpenCV on a Raspberry Pi for image processing tasks.

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Part 1 : OpenCV

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- Insert the raspberry pi camera in to the camera port

- Power on the raspberry pi

- Run the following command to check the camera :

  `rpicam-still`

- If you are able to see the preview window of the camera proceed with the experiment or else check the connections or replace the camera and then reboot the raspberrry pi.

- Open a terminal window on Raspberry Pi

- Run

  `sudo apt install python3-opencv`

- Install dlib for performing facial detection

  `wget https://github.com/prepkg/dlib-raspberrypi/releases/latest/download/dlib_64.deb`

  `sudo apt install -y ./dlib_64.deb`

  `sudo apt install -y g++`

- Add base libraries to your python virtual environment

  `ln -s /usr/lib/python3.XXX/site-packages/* /path/to/your/python/virtualenv/lib/python3.xxx/site-packages`

  change the python3.xxx based on your system by pressing tab.

- Once done run the provided python script to perform face detection