CS 1010

Getting started with Raspberry Pi and PiCamera

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```
import cv2
Import picamera
```

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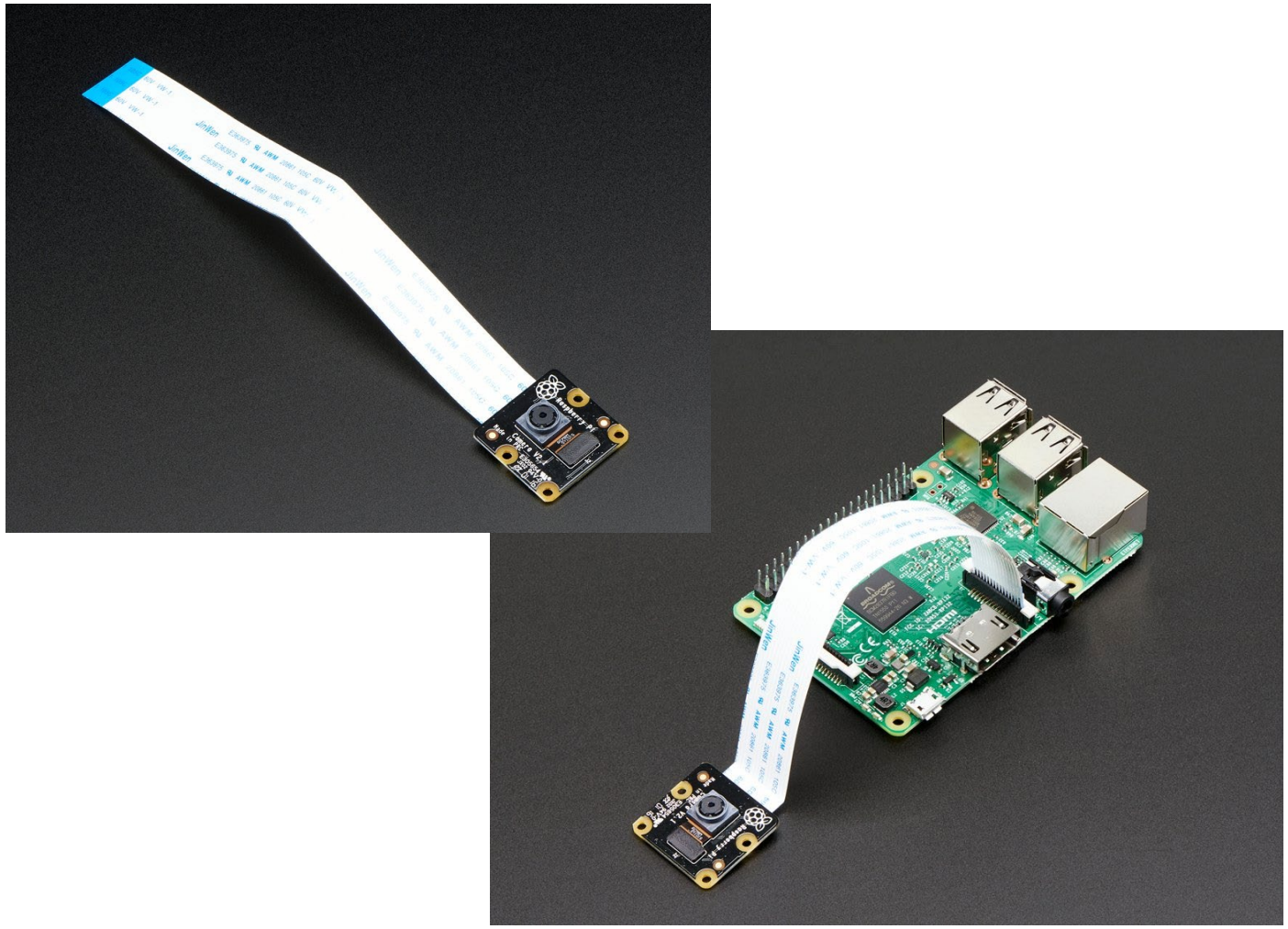
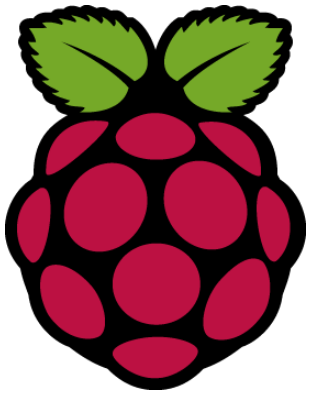
Photo: Kartik Bulusu

Introducing the Pi NoIR Camera

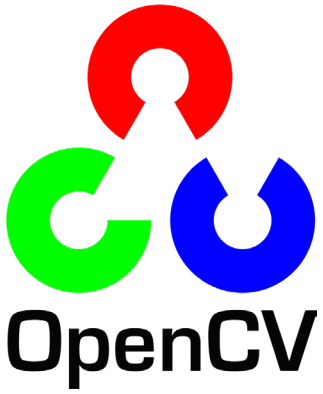


- 8 megapixel native resolution high quality Sony IMX219 image sensor
- 3280 x 2464 pixel static images
- Capture video at
  - 1920 x 1080 p30
  - 1280 x 720 p60
  - 640 x 480 p90 resolutions
- No Infrared (NoIR) filter
  - Infrared photographs or photographing objects in low light (twilight) conditions

Source:
https://www.adafruit.com/product/3100#description



picamera 1.13



Raspberry Pi hardware and Camera hardware interactions
Low-level image acquisition and processing

Computer vision on the Raspberry Pi

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Goal of the lab segment

Co-work

- Observe, ask and try in groups

Make

- Build-a-hack
- Use Pi NoIR Camera to acquire an images
- import OpenCV library

Perform basic image processing functions using OpenCV