Introduction to Robotics

Manipulation and Programming

Unit 3: Sensors and Vision

CAMERA AND COLOR – PART 1: OPENCV

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Objectives

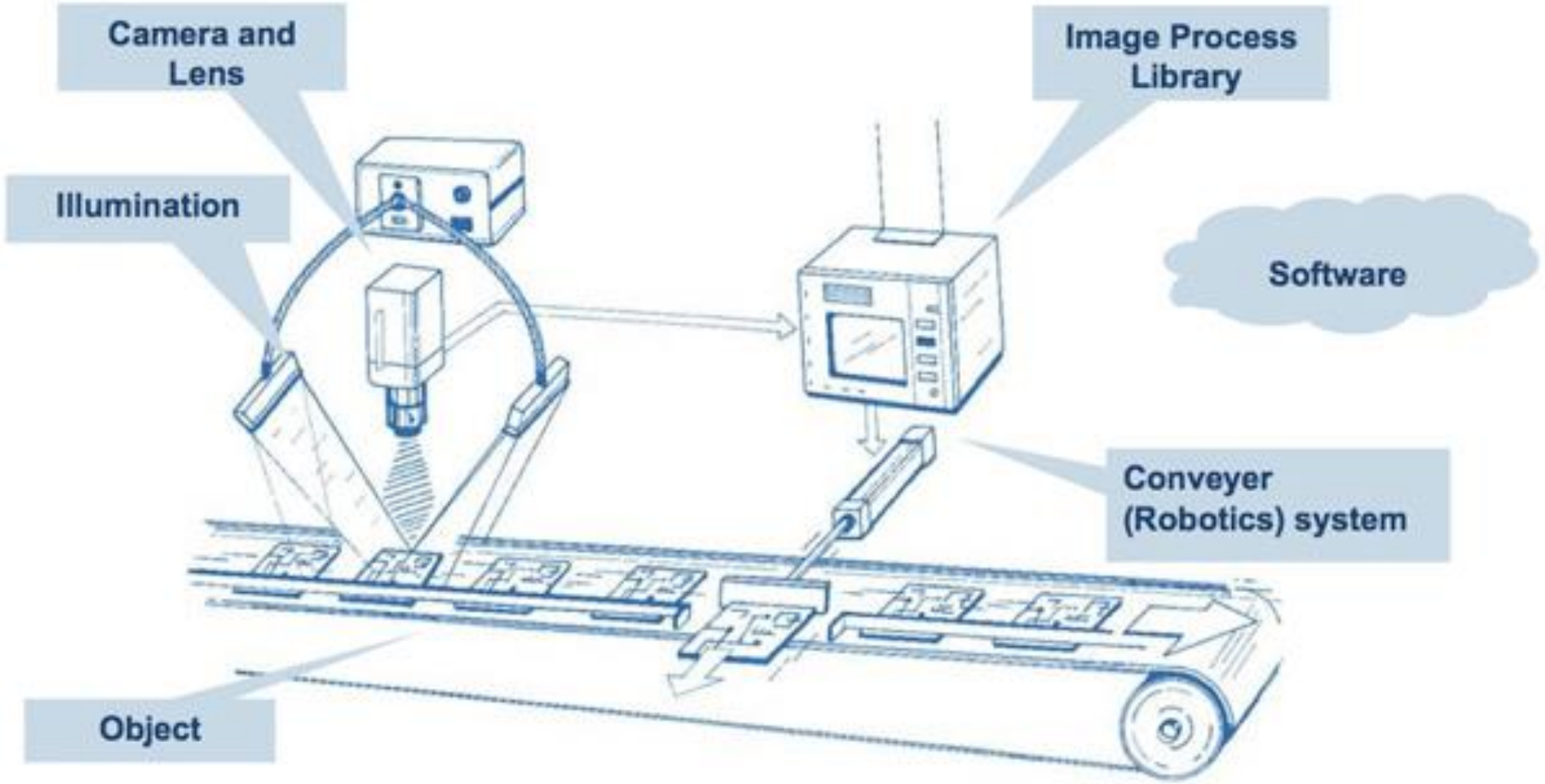
- Machine Vision
- OpenCV
- Python Coding
- Color Space
- Still Image
- Motion Pictures

Machine Vision

SECTION 1

Machine Vision

- Getting data (picture/video) from camera
- Cleansing the data
- Extract useful information or pattern from the data
- Making decision and adjust robot


Camera and Lens
Image Process Library
Illumination
Software
Conveyer (Robotics) system
Object

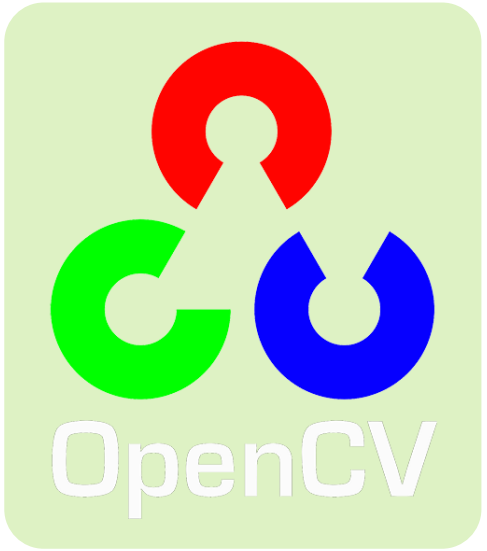
OpenCV

SECTION 2

OpenCV

https://opencv.org/

- Open course Computer Vision
- Download and Install the Open CV Python module
- Try out the installation (sample.py)



Python – OpenCV

SECTION 3

Python OpenCV

sample2.py

- Demonstration