

Step 3: Installing libraries

Installing the required libraries for our python program to function:

OpenCV (Open Source Computer Vision Library) is a library of programming functions mainly aimed at real-time computer vision. OpenCV is used here for digital image processing. The most common applications of Digital Image Processing are object detection, Face Recognition, and people counter. we are going to use the command:

```
python3 -m pip install opencv-python==3.2
```

Keras is compact, easy to learn, high-level Python library run on top of TensorFlow

framework. It is made with focus of understanding deep learning techniques, such as

creating layers for neural networks maintaining the concepts of shapes and mathematical. We are going to use the command:

```
python3 -m pip install keras==2.0.5
```

TensorFlow is an open source machine learning framework for all developers. It is used

for implementing machine learning and deep learning applications. To develop and

research on fascinating ideas on artificial intelligence. We are going to use the command:

Machine learning is the art of science of getting computers to act as per the algorithms designed and programmed. Many researchers think machine learning is the best way to make progress towards human-level AI. Machine learning includes the following types of patterns:

☑ Supervised learning pattern

☑ Unsupervised learning pattern

We are going to use the command:

```
python3 -m pip install tensorflow==1.1.0
```

Pandas is a fast, powerful, flexible and easy to use open source data analysis and manipulation tool. We are going to use the command:

```
python3 -m pip install pandas==0.19.1
```

NumPy, which stands for Numerical Python, is a library consisting of multidimensional array objects and a collection of routines for processing those arrays. Using NumPy, mathematical and logical operations on arrays can be performed. We are going to use the command:

```
python3 -m pip install numpy==1.12.1
```

The h5py package is a Pythonic interface to the HDF5 binary data format. HDF5 lets you store huge amounts of numerical data, and easily manipulate that data from NumPy. For example, you can slice into multi-terabyte datasets stored on disk, as if they were real NumPy arrays. Thousands of datasets can be stored in a single file, categorized and tagged however you want. We are going to use the command:

```
python3 -m pip install h5py==2.7.0
```

Python's **statistics** is a built-in Python library for descriptive statistics. We are going to use the command:

```
python3 -m pip install statistics
```