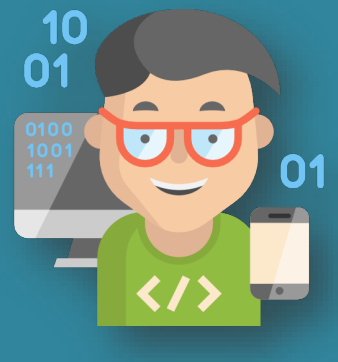


Computer Vision for dummies with opencv

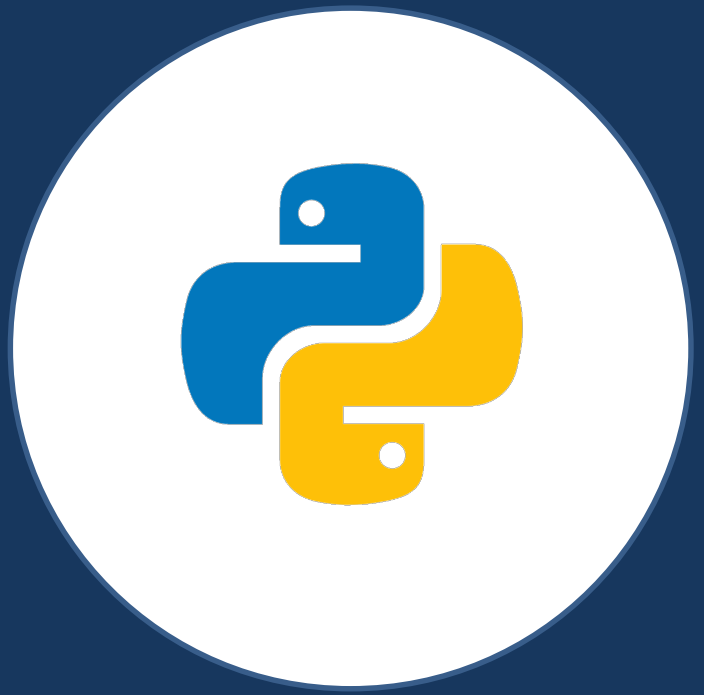
Sampriti Chatterjee (Great Learning)

Agenda

1. What is Python?
2. History of Python
3. Why Python is so popular?
4. Install python
5. statistical visualization on Python user
6. What is Opencv?
7. How computer read an image?
8. History of Opencv
9. Getting started with OpenCV
10. Face recognition using OpenCV

Introduction to Python

Python is a popular high level, object oriented and interpreted language

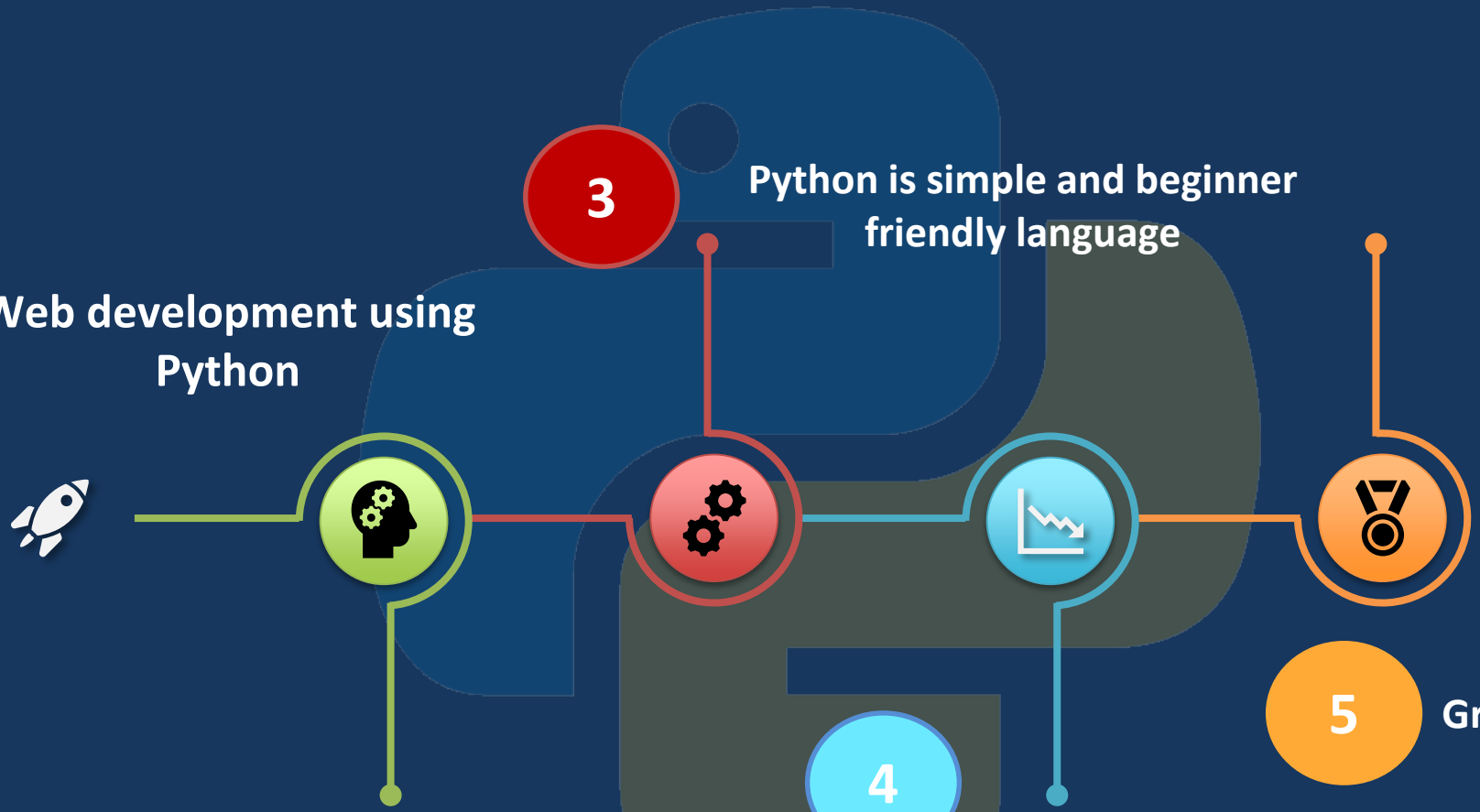


High level

Interpreted

Object oriented

Why should you learn Python?



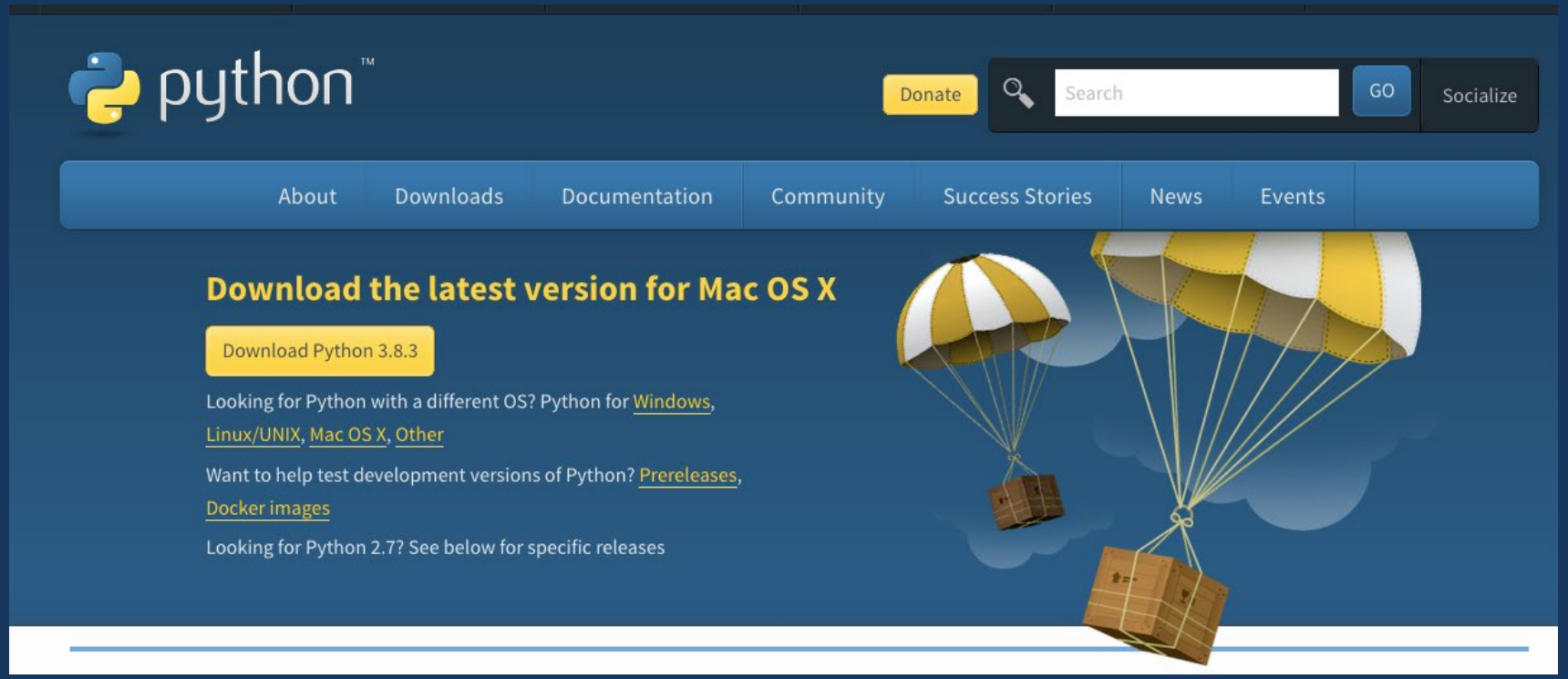
1. Web development using Python
2. Length of the program is short
3. Python is simple and beginner friendly language
4. Mathematical computation can be done easily
5. Graphical user interface

Why Python is so popular?

1. Largest community for Learners and Collaborators
2. **Open source**
3. **Easy to learn and usable flexibility**
4. **Huge numbers of Python libraries and Frame work**
5. **Supports Big Data, Machine Learning and Cloud computing**
6. **Supports Automation**

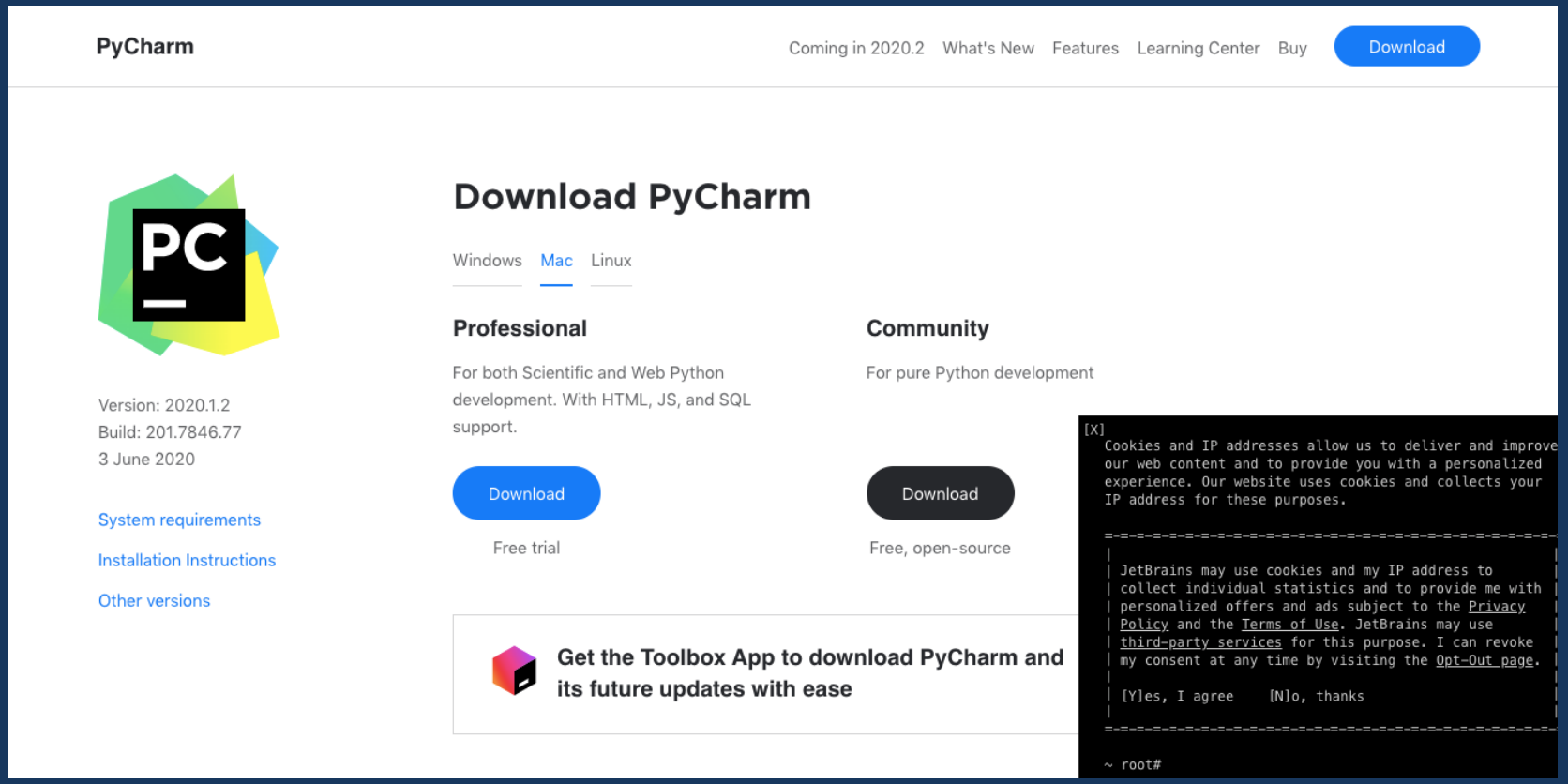
Installing Python

This is the site to install Python -> https://www.python.org/downloads/



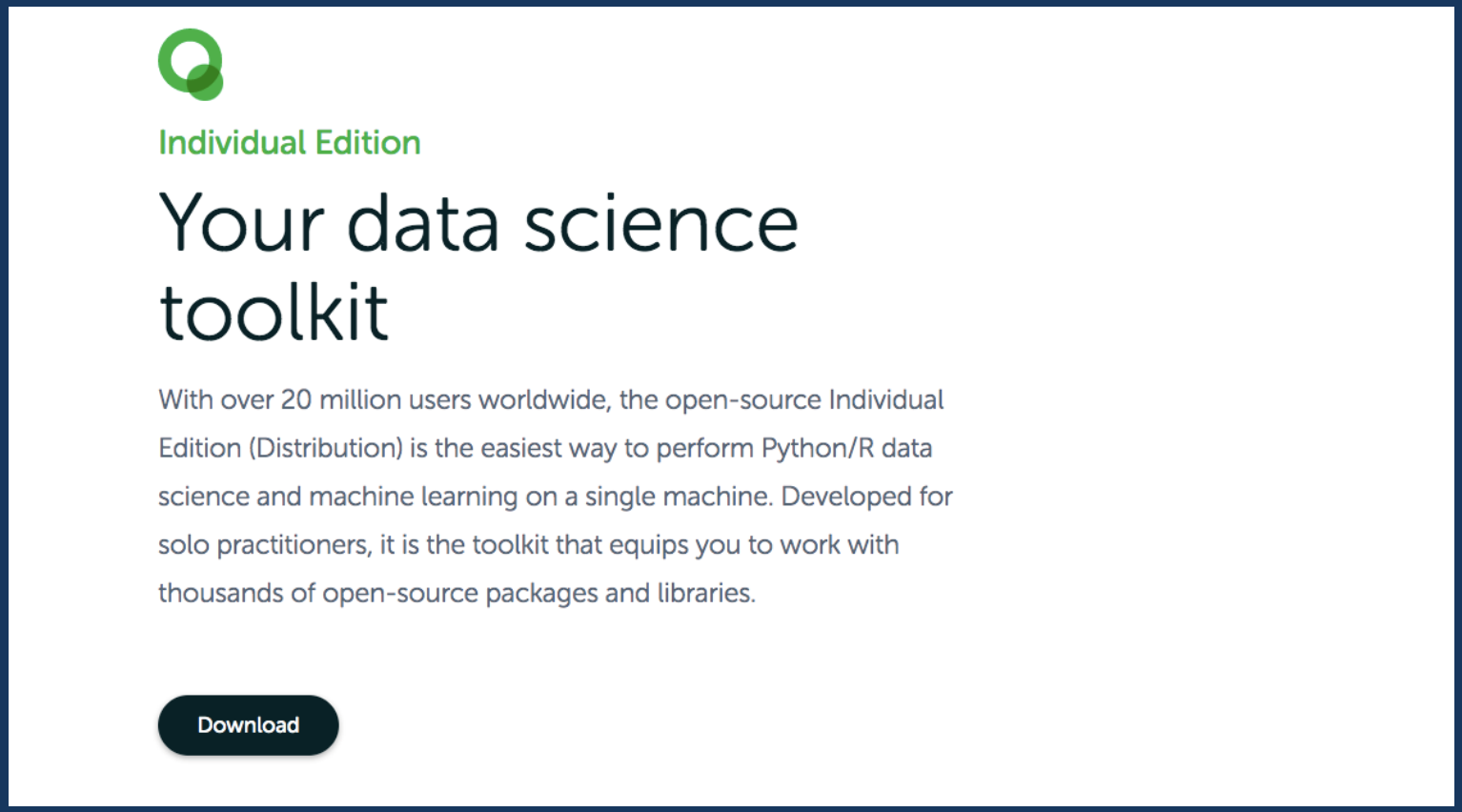
Popular IDE for Python: Pycharm

Site to install Python ->
https://www.jetbrains.com/pycharm/download/#section=mac



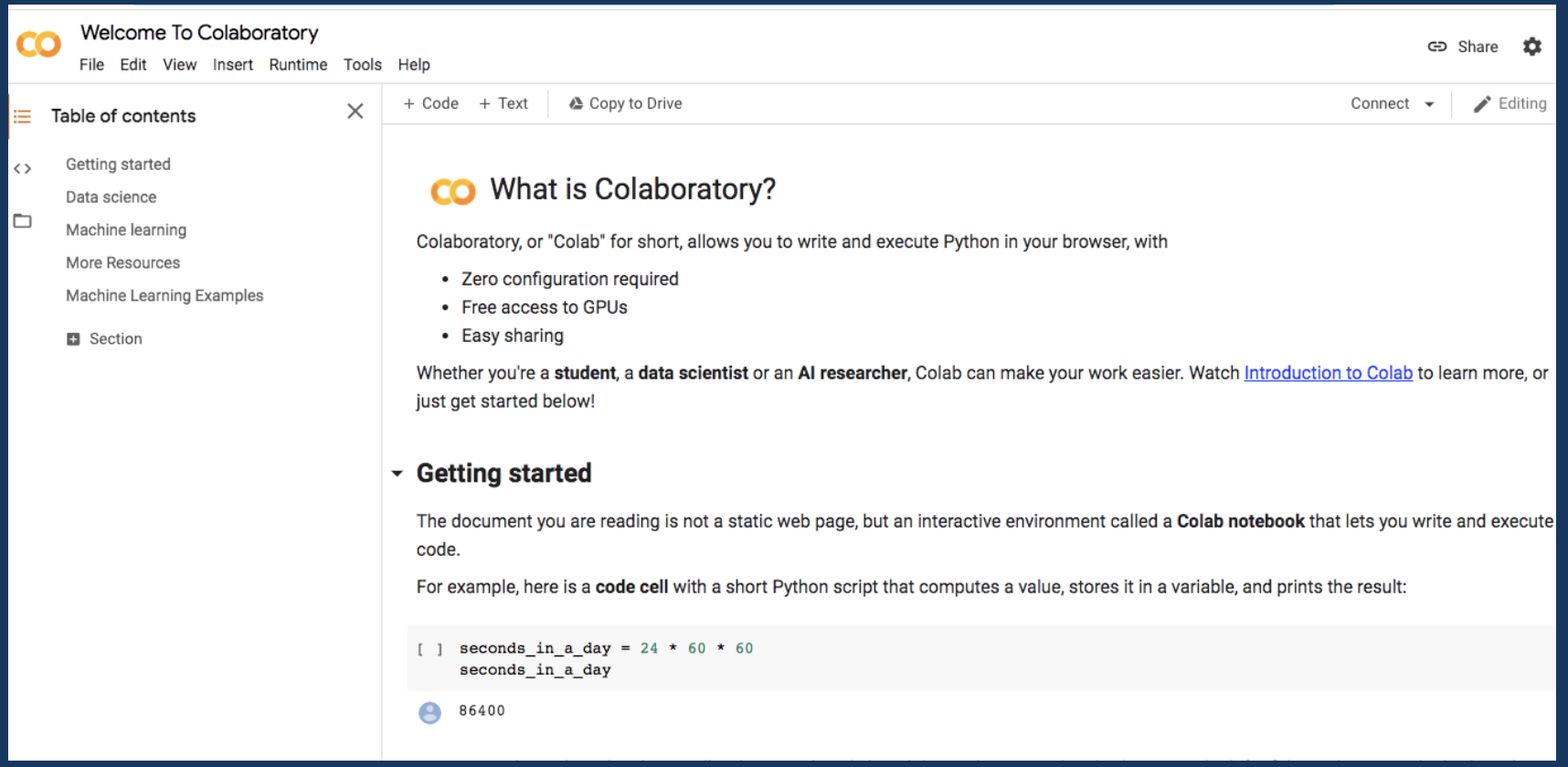
Popular IDE for Python: Anaconda

Anaconda installation site->
https://www.anaconda.com/products/individual

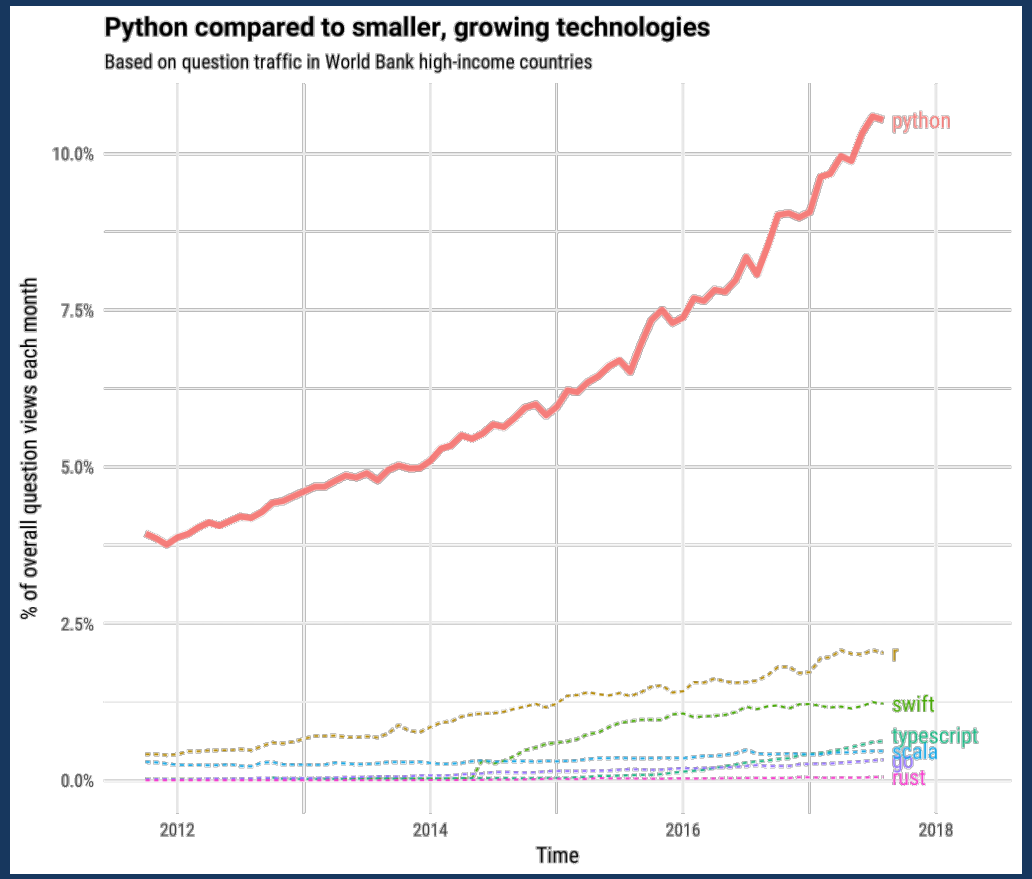


Popular IDE for Python: Google colab

Google collaboratory link->
https://colab.research.google.com/notebooks/intro.ipynb



Statistical measurement on Python user



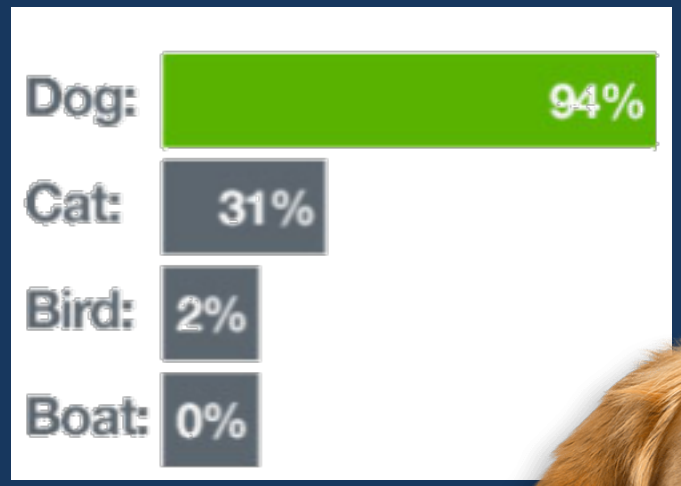
In recent time it is prominent that Python is one of the most popular language because of it's simplicity

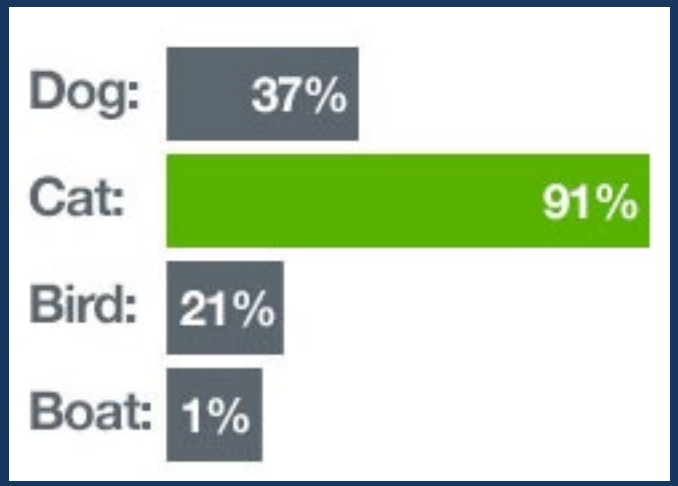
What is Image Processing

Image processing is a method to perform some important operations on an image. In order to get an enhanced high Quality image or to extract the most useful information from that

- It is a one type of signal processing
- In this processing input is an image and output may be image or characteristics/features associated with that image

Is It A Cat Or A Dog?



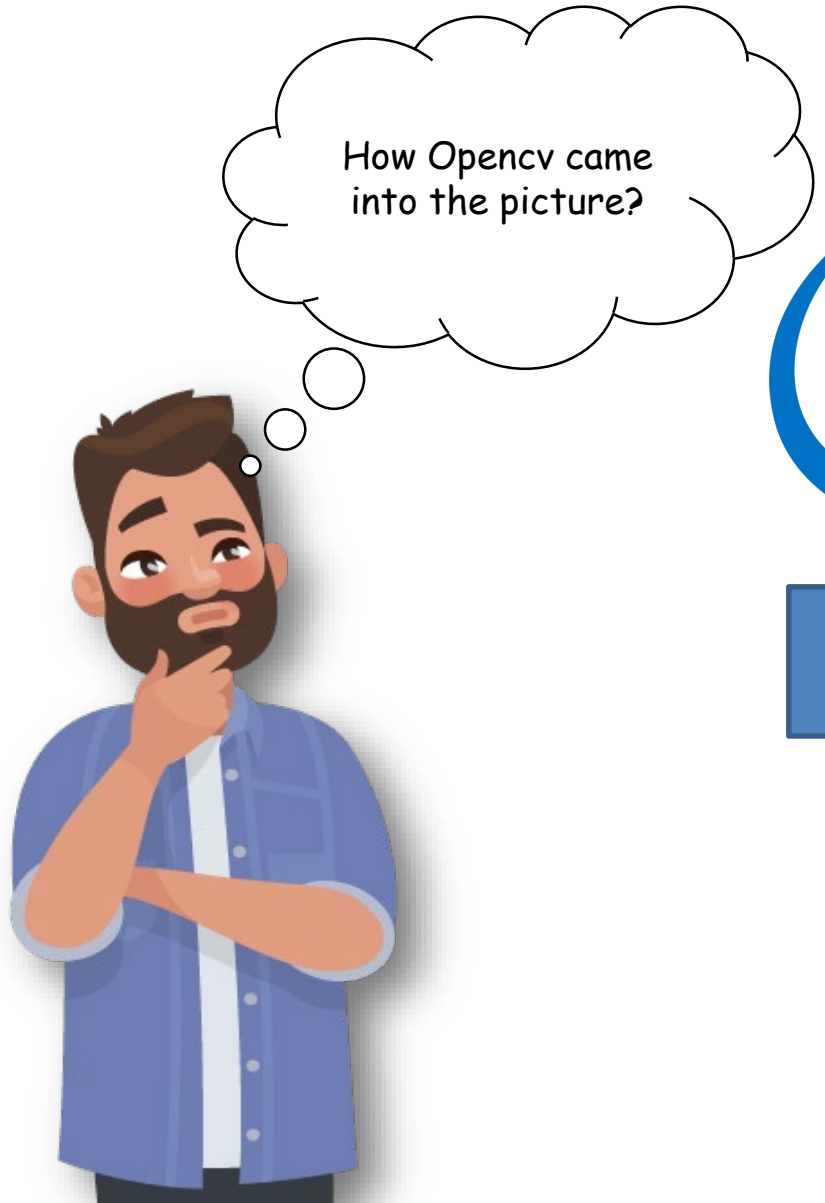


What is OpenCV?

OpenCV is a open source library which is widely used for computer vision purpose

- It helps us to develop a system which can process images and real-time video using computer vision
- OpenCv focused on image processing, real-time video capturing to detect faces and objects.

History of Opencv



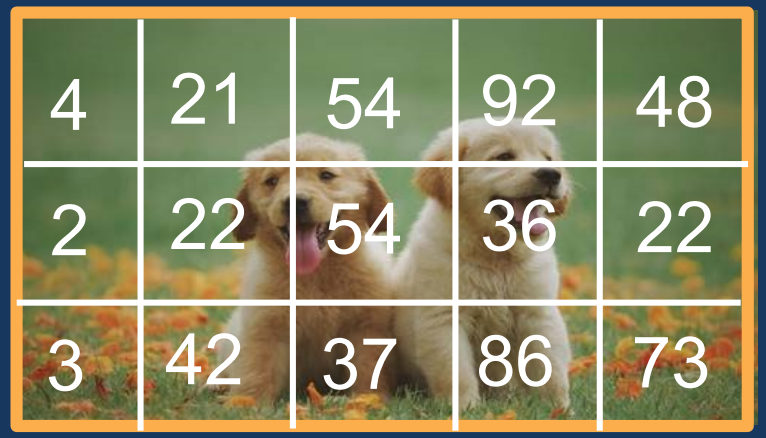
Opencv was invented by Intel

Important Facts

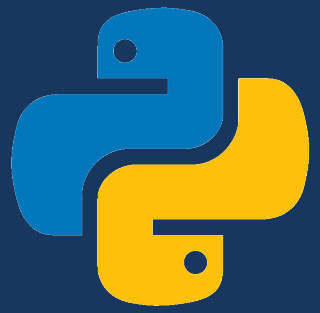
- OpenCV was invented by Intel in 1999 by Gary Bradsky.
- The first release was in the year 2000.
- OpenCV stands for Open Source Computer Vision Library.
- This Library is based on optimized C/C++ and it supports Java and Python along with C++ through interfaces.

How Image Input Works In Computer?

Converts the image into an array of pixel values where the dimension of array depends on the resolution of the image



Array of dimension 32 X 32 X 3 (The 3 refers to RGB values)



Getting started with Opencv

Face Recognition using Python

Thank You