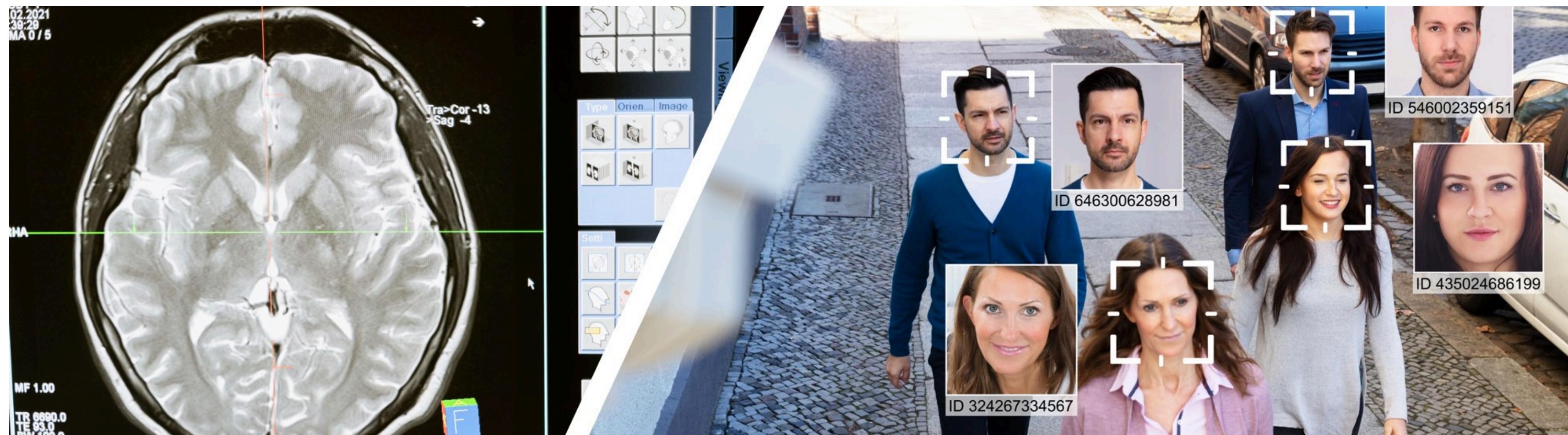


Artificial Intelligence: Computer Vision and Deep Learning with Python



Overview

The most popular platforms in the world are generating different amounts of images and videos data. Every 60 seconds users upload more than 300 hours of video on Youtube, and different social media platforms. Instagram users upload over 2 million photos in every minute. Now more than ever it's necessary for developers to gain the necessary skills to work with image and video data using computer vision.

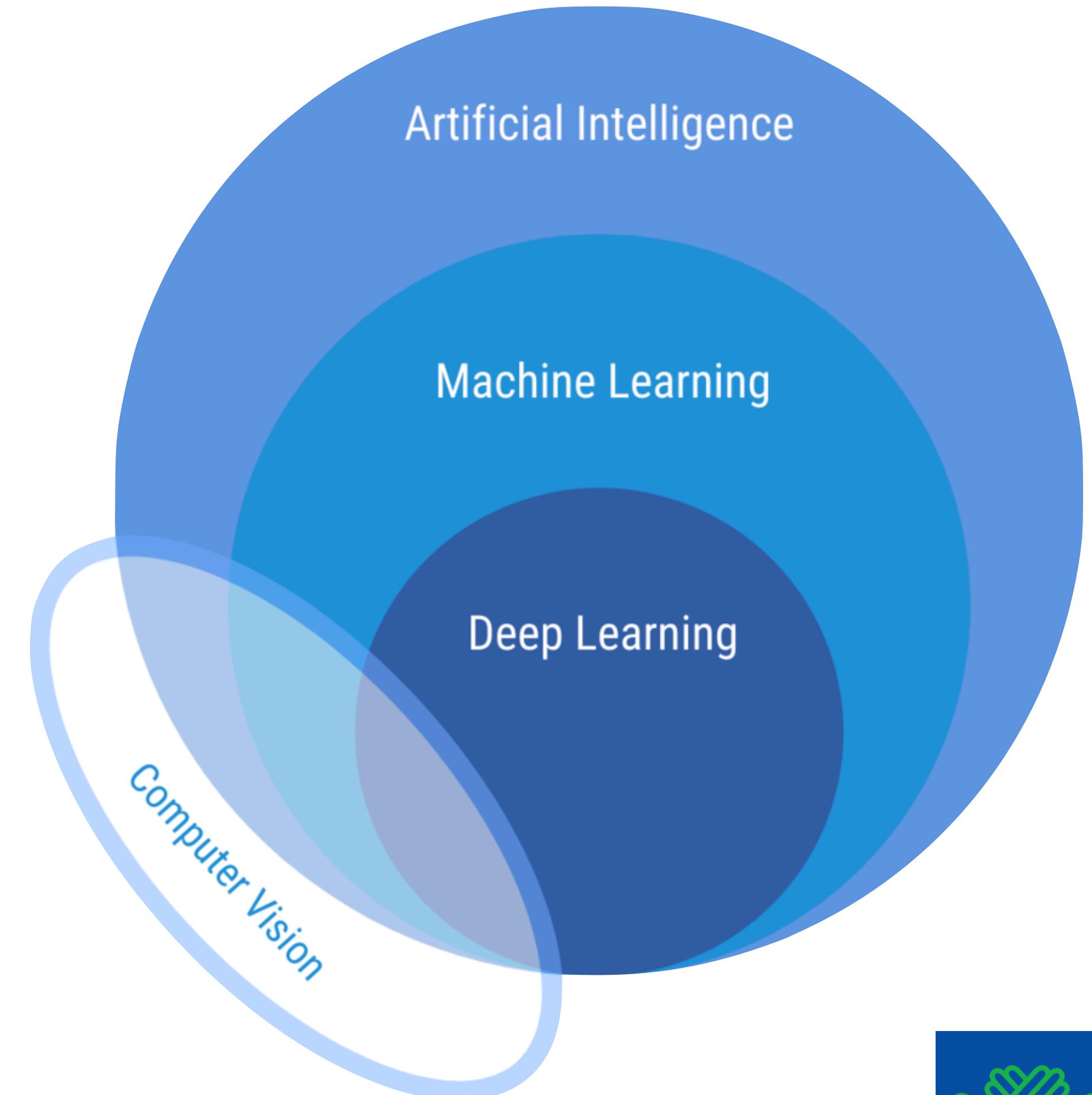
Computer vision allows us to analyze and leverage image and video data, with applications in a variety of industries, including self-driving cars, social network apps, medical diagnostics, and many more.

As the fastest growing language in popularity, Python is well suited to leverage the power of existing computer vision libraries to learn from all this image and video data.



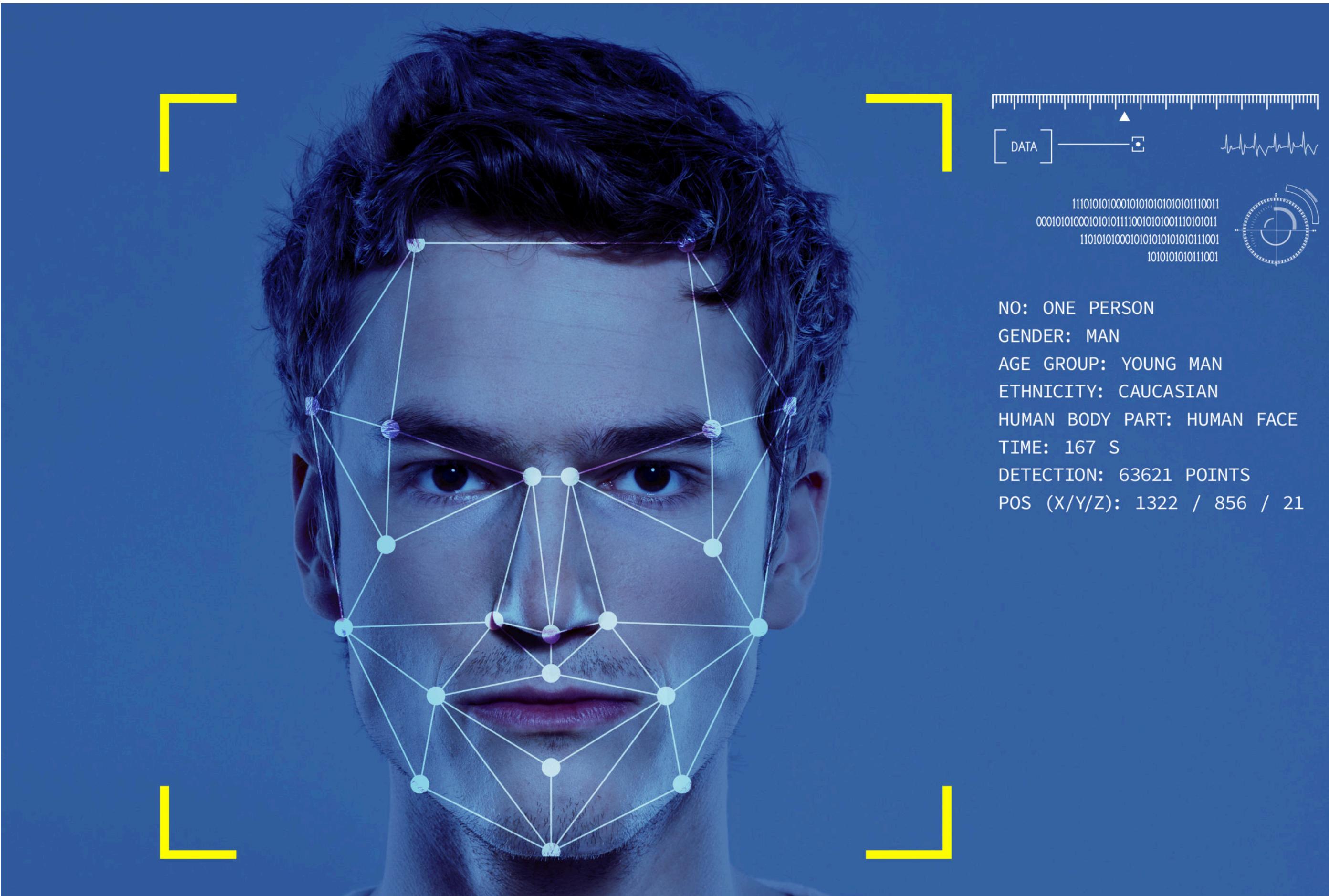
This Course

- Improve your knowledge regarding Python programming as well as numerical processing with NumPy Library and how to open and manipulate images with NumPy.
- Build your ability to analyse and innovate. You will work on OpenCV Library to open and work with image basics and understand how to process images and apply a variety of effects, including color mappings, blending, thresholds, gradients, and more.
- We will work on video basics with OpenCV, including working with streaming video from a webcam. Afterwards we'll learn about direct video topics, such as optical flow and object detection. Including face detection and object tracking.
- Then we'll move on to an entire section of the course devoted to the latest deep learning topics, including image recognition and custom image classifications. We'll even cover the latest deep learning networks, including the YOLO (you only look once) deep learning network.



What You'll Learn

- Understanding of Python Programming
- NumPy and Image Basics
- Image Basics with OpenCV
- Image Processing
- Video Basics with Python and OpenCV
- Object Detection and Object Tracking with OpenCV and Python
- Deep Learning for Computer Vision



Module 01

Python
Programming

- Python Variables and Data Types
- Control Flow and Logical Operators
- Python Lists and Dictionary
- Loops and Tuples

Module 02

NumPy and
Image with
OpenCV

- Introduction to NumPy and its Array
- Images and NumPy
- Introduction to OpenCV and opening Image files with OpenCV
- Drawing on Images

Module 03

Image
Processing and
Video with
OpenCV

- Introduction to Image Processing
- Perform Image Operations such as Blurring, Smoothing, Morphology and Gradient
- Introduction to Video Basics in OpenCV
- Use of Video files and Drawing on Live Camera

Module 04

Object
Detection and
Tracking Using
OpenCV

- Introduction to Object Detection
- Corner Detection, Edge Detection, Grid Detection and Watershed Algorithm
- Face Detection and Recognition with OpenCV
- Object Tracking and optical Flow
- MeanShift and CamShift Tracking with OpenCV and various Tracking API Methods

Module 05

Deep Learning
for Computer
Vision

- Introduction to Deep learning and Machine Learning
- Understanding Neural Network, Cost Functions, Gradient Descent and Back Propagation
- Keras Convolutional Neural Network MNIST AND CIFAR
- Deep Learning on Custom Images
- YOLO v3 with Python



Who You'll Meet

- Highly qualified Programmers having vast theoretical knowledge and massive hands-on experience about Python Programming Artificial Intelligence.
- Experts in Object Oriented Programming, Python and Machine Learning Models Training.
- Experts in Artificial Intelligence, Deep Learning and Data Science.

Who You'll See

- An in-depth series of online/offline lectures, with high-quality graphics & detailed descriptions.
- Massive interactive labs in which you will learn Computer Vision, Deep Learning Models and Face Recognition from very basic to advance level.
- Interactive sessions with academic & industry experts, capturing cutting-edge perspectives.



Who Should You Enrol?

- To be a smart thinker
- To be a project leader
- To be a quick learner
- To be a team player
- To be a troubleshooter
- To enhance your vision as a Programmer

