Introduction to Computer Vision

Microsoft Azure AI

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What is Computer Vision?

"Computer vision is a field of artificial intelligence that enables systems to understand and interpret the content of digital images and videos."

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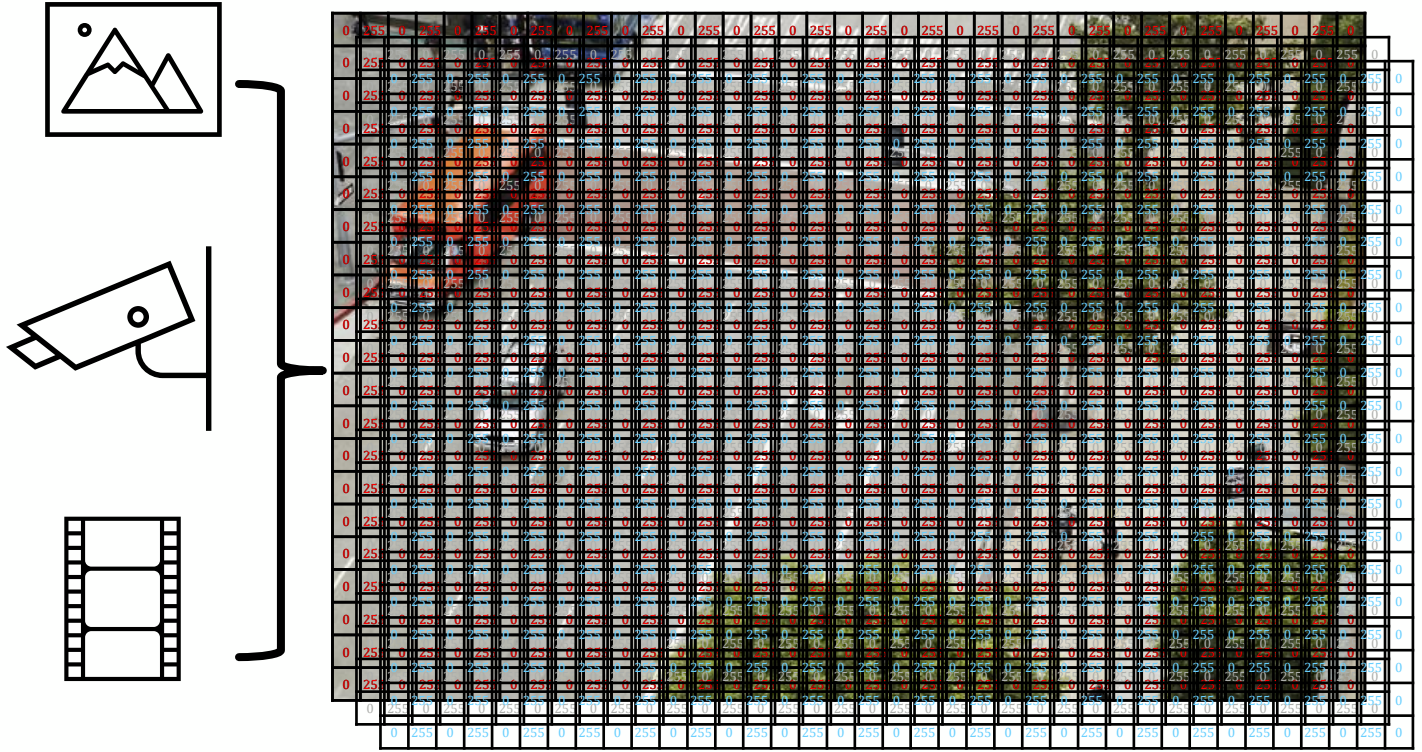
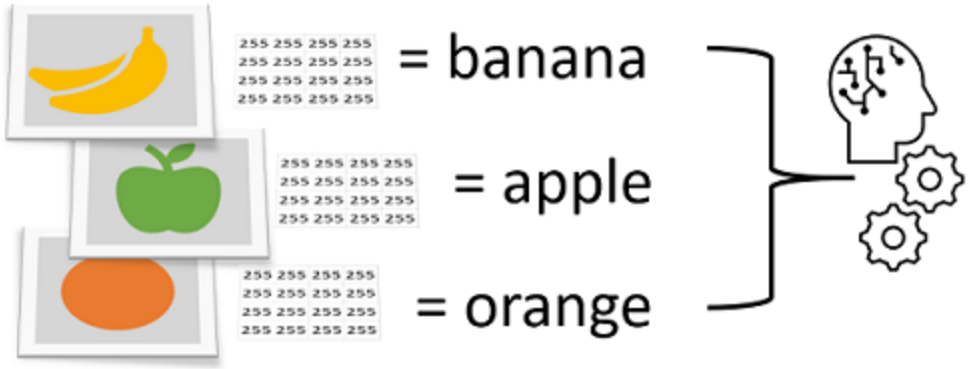
How can a system “see” ?



Applications of Computer Vision
Object Classification

- **Image classification is used to determine the main subject of an image**

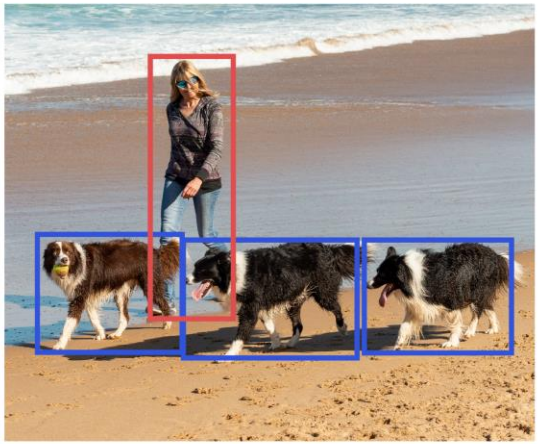


Applications of Computer Vision
Object Detection

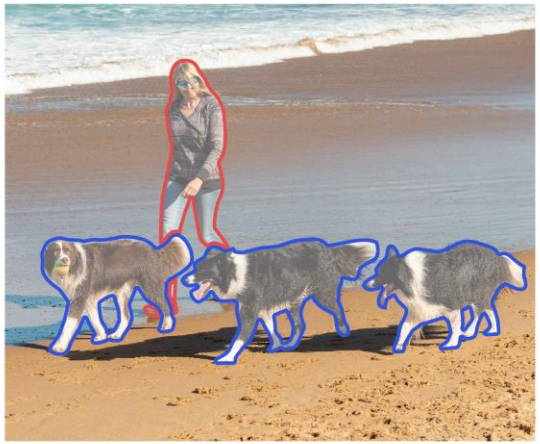
- **Object detection builds upon image classification and is used to find individual objects and their locations in an image.**

Applications of Computer Vision
Semantic Segmentation

- **Classifies individual pixels in an image to the object with which it belongs – providing a Mask/Outline of detected objects.**



Object detection



Semantic segmentation

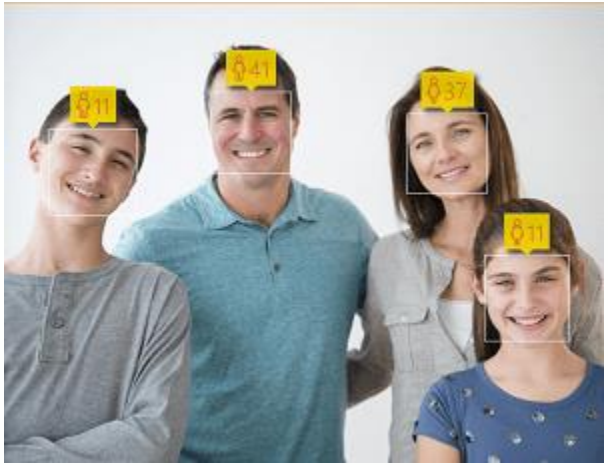
Applications of Computer Vision
Image Analysis

- **Extracts information from the entire scene of an image.**

Cows grazing in a field

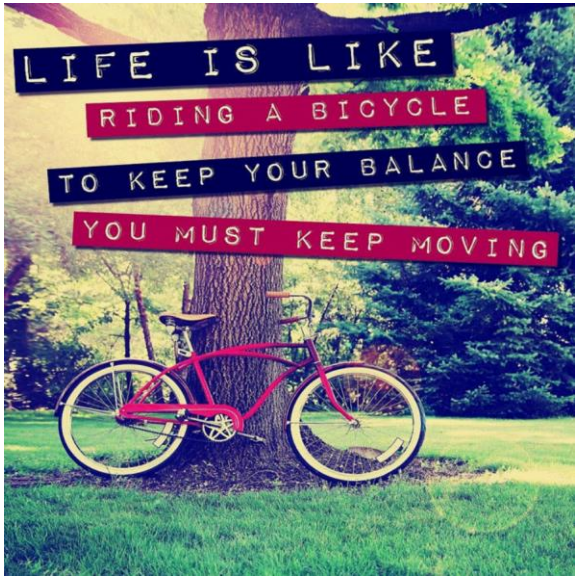
Applications of Computer Vision
Face detection, analysis, and recognition

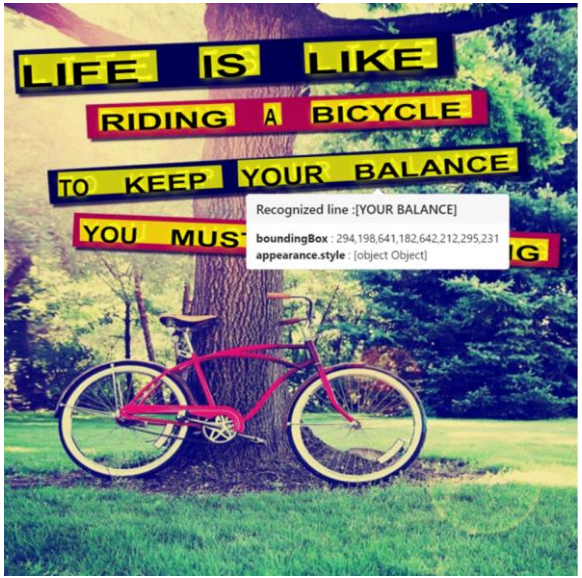
- **Specialized form of object detection that identifies faces in an image.**



Applications of Computer Vision
Optical Character Recognition (OCR)

- **Detects and reads text in images.**





Demo

Tags:

Water 100% confidence
Sky 100% confidence
Lake 95% confidence
Outdoor 95% confidence
Skyscraper 89% confidence
Reflection 61% confidence
Overlooking 33% confidence
Day 12% confidence

Description:

a city skyline with water 27% confidence

Racy Content:

False 75% confidence

Adult Content:

False 78% confidence

Try another image

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