Development of Image recognition with IBM cloud visual recognition

Image recognition consists of **four main techniques**:

1. **Classification:** The goal of classification is to identify the category into which a specific image fits.
2. **Tagging/labeling:** This is a type of classification, but with a higher level of accuracy. For example, several objects can be tagged and labeled within one image.
3. **Object detection:** Detection is used to locate a particular object within an image. After the object is detected, a bounding box is placed around it.
4. **Segmentation:** With segmentation, an element of an image can be localized down to the nearest pixel.

### **Image Recognition vs. Computer Vision & Co.**

Before we move on, let’s briefly tap into some **terminology** you might encounter within the context of AI image recognition: computer vision, machine learning, and [deep learning](https://www.meltwater.com/en/blog/fundamentals-of-deep-learning).

#### **Computer vision**

Computer vision is a **set of techniques** that enable computers to identify important information from images, videos, or other visual inputs and take automated actions based on it. In other words, it’s a process of training computers to “see” and then “act." Image recognition is a subcategory of computer vision.

## **How Does Image Recognition Work?**

How image recognition works in four steps.

* **Step 1:** Extraction of pixel features of an image
* **Step 2:** Preparation of labeled images to train the model
* **Step 3:** Training the model to recognize images
* **Step 4:** Recognition of new images

Let’s break those down.

#### **Machine learning**

Machine learning is a subset of AI that strives to complete certain tasks by predictions based on **inputs and algorithms**. For example, a computer system trained with an algorithm of images of cats would eventually learn to identify pictures of cats by itself.