

# **Image Recognition - IBM Cloud Visual Recognition.**

The explosive growth of cameras, image sensors, and computer vision as a discipline of Artificial Intelligence (AI) has garnered strong interest from researchers, developers, businesses and consumers.

Image classification refers to a process to classify an image according to a model and match it to a set of classes or categories.

Object detection is similar to image classification, which is a process to classify, locate and count multiple objects in an image and their respective locations within the image. Object tracking involves using object detection in each frame of a video to track the desired object through a series of image frames or video [1]. There are a number of use cases for computer vision including face recognition for application or device security, automatically counting and classifying items on a production line, and monitoring and responding to traffic conditions on busy road sections.

Computer vision seeks to understand information in digital images through processing and analyzing digital images. This understanding is achieved through extracting high dimension data from images and processing them to produce usable information. Practical applications of computer vision in the context of machine learning include classification, segmentation, and tracking [2].

IBM Watson Studio

(<https://www.ibm.com/watson>) is IBM's suite of enterprise-ready AI services, applications and tooling. As a service on IBM Cloud, IBM Watson Visual Recognition uses deep learning algorithms to analyze images for scenes, faces, and objects. This service provides built-in models and can also be used to create and train custom models for specific needs. Watson Studio provides a collaborative platform on top of IBM Cloud's cloud computing capabilities to use existing models or train and deploy new models with minimal coding. Watson Studio has the added capability of setting up custom environments and Notebooks, allowing quick, cloud-enabled development machines that can scale as your projects scale.