

Intel Image Classification

Introduction:

When machine learning and image classification get integrated, computers become capable of performing visual tasks that until recently could only be carried out by humans. Together, these technologies offer the potential for breakthroughs in automation, presenting new digital opportunities for companies in a variety of domains.

How do we, humans, recognize a forest as a forest or a mountain as a mountain? We are very good at categorizing scenes based on the semantic representation and object affinity, but we know very little about the processing and encoding of natural scene categories in the human brain. In this problem, we have a dataset of ~25k images from a wide range of natural scenes from all around the world.

Identifying natural scenes from all around the world is an interesting image classification problem. We are going to classify six different category images:

- Buildings
- Forest
- Glacier
- Mountain
- Sea
- Street

Problem at hand:

Our task is to identify which kind of scene can the image be categorized into.

Value to client:

Image recognition refers to technologies that identify places, logos, people, objects, buildings, and several other variables in images. Users are sharing vast amounts of data through apps, social media and websites. Additionally, mobile phones equipped with cameras are leading to the creation of limitless digital images and videos. The large volume of digital data is being used by companies to deliver better and smarter services to the people accessing it.

From the business perspective, major applications of image recognition are face recognition, security, surveillance, visual geo-location, object recognition, gesture recognition, code recognition, industrial automation, image analysis in medical and driver assistance. These applications are creating growth opportunities in many fields.

By analyzing images of people, places, objects, scenes, and documents, machine learning for image classification promises new levels of automation in just about every industry. Healthcare, insurance, automotive, manufacturing, and financial services are among the industries in which automated image classification is most prolific. However, in reality it is likely that many more industries will be impacted by the technology as it matures.

Data Source:

[Intel Image Classification](#)

Methodology:

Building and training a Convolutional Neural Network that can classify the above mentioned categories of images correctly.

Deliverables:

- Code
- Report
- Slide deck