Image Classification Using Neural Networks

Mrunal Jadhav, Rohan Dhere

ABSTRACT

Image classification has become one of the key pilot use-cases for demonstrating machine learning.Image classification refers to the task of extracting information classes from a multiband raster image. The resulting raster from image classification can be used to create thematic maps.The objective of the project is to use “flavor” of logistic regression to tackle the multi-class classification problem. Embedding is a way to map discrete objects (images, words, etc.) to high dimensional vectors. Thus taking advantage of overall patterns of location and distance between vectors , a classifier can be trained on the same.Further, making effective use of multiple features of data, a neural network can be adapted as a baseline model ,which is a data-driven,visually aware feature extractor.Also evaluating the network under various conditions that affect the accuracy.Also ,to exploit the idea that the local understanding of image is good enough using CNN as fewer parameters may greatly improve the time it taken to learn as well as reduces the amount of data required to train the model.