TensorFlow Tutorial

https://github.com/hasibzunair/tf-tutorial

Summary of Tutorial

***Tutorial Title*:** Building machine learning models using TensorFlow

This tutorial introduces TensorFlow, a Python based machine learning (ML) library. It begins by importing the main Python modules for building machine learning models. Then it implements the simplest possible neural network to solve a function (Y = 2x -1). Next, it shows how to build and train convolutional neural networks for image classification to identify cats and dogs using unstructured datasets (e.g. images). Finally, it shows how to build and train a reconstruction convolutional autoencoder to detect anomalies in time series data using structured/tabular datasets (e.g. CSV files). After being introduced to solve different tasks using neural networks implemented in TensorFlow, participants apply what they have learned on their own datasets and tasks.

Learning Objectives

At the end of this tutorial on TensorFlow, participants will be able to:

- describe how to import the main Python modules for building ML models
- implement neural networks in TensorFlow
- use unstructured and structured datasets with TensorFlow
- apply neural networks to classification and anomaly detection tasks