SKILLCONNECT
Innovating Engineering!

Week 1: Intermediate Challenge

Agenda: Learn Functions and libraries for ML
Last Date for submission: Sunday, 12th April, 2020

Topics Covered: Functions, Using libraries: Numpy, Matplotlib, Pandas, OpenCV

Problem Statement

Develop a Google Colab notebook with well documented code for the following topics. Each topic must be shown in a separate section using “text” cells in the colab.

1. Define functions and using inbuilt functions like map, split, lambda etc
2. Perform basic operations on Numpy arrays
    a. Creation of arrays
    b. Array Operations like indexing, slicing, manipulation etc
    c. Saving & Loading numpy arrays
3. Perform basic operations using Pandas lib
    a. Reading & writing .csv files
    b. Understanding pandas series and dataframes
    c. Accessing elements and manipulating rows/columns
    d. It would be great if you could work on data clean up (refer to Titanic dataset on Kaggle and contact me if you’re interested in working on it)
4. Show insights about some data (you can create your own dummy dataset or load something using Pandas) using Matplotlib
5. Perform basic Operations using OpenCV
    a. Loading & Displaying Images
    b. Editing and Saving Images
    c. Drawing, Reshaping, Cropping using Numpy
    d. Loading & Playing videos
    e. Using webcam for live feed

Resource Reference

1. Python Programming Tutorials - Video Lectures
2. https://github.com/shubham99bisht/python-tutorials - Reading notes and code snippets

*** For OpenCV assignments, you’ll have to develop .py files on your laptop/system*