Week 3: Intermediate Challenge

Agenda: Learning & Implementing Neural Networks and Pool layers from Scratch

Topics Covered: Neural Networks, Pool layers and Codechef

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. Develop a Perceptron from Scratch
2. Read about "Pool" layers used in CNN, develop your own code for performing following operations on any given image.
   a. Max Pooling
   b. Average Pooling
   Input to the function should consist of an Image, Kernel Size and Type of pooling.

3. Solve 10 Codechef questions from the beginner's section.
   Link: https://www.codechef.com/problems/school
4. Solve 5 Codechef questions from the easy section.
   Link:https://www.codechef.com/problems/easy/

NOTE: Just add a text file on github with links to all 10 codechef accepted solutions. No need to perform codechef problems on colab and share the code on github.

Resource Reference

1. Machine Learning by Andrew Ng
2. Learn Data Structures and Algorithms - Contains Links to all the resources you may need to solve Codechef problems.

Dataset: You can create your own dummy Dataset for training the perceptron.