

Assignment # 3

Due Date: November 27, 2022

Submission:

This is an individual assignment and you need to submit the solution in a single Jupyter notebook over Google Class Room (submission link will be created).

Object Recognition in Images with CIFAR-10

The goal of this assignment is to let you explore and understand Artificial Neural Networks and Convolutional Neural Networks for image classification in the CIFAR-10 dataset.

CIFAR-10 dataset: <https://www.cs.toronto.edu/~kriz/cifar.html>

CIFAR-10 Leaderboard:

http://rodrigob.github.io/are_we_there_yet/build/classification_datasets_results.html#43494641522d3130

You're required to design, train, and test (i) a regular neural network, and (ii) a convolutional neural network on the CIFAR-10 dataset. For model optimization, you may further split the training data into a train and a validation split. Moreover, you're expected to conduct and present a comparative analysis (e.g., accuracy, efficiency, simplicity, etc.) as well.

You would be asked to present your work as well.