42028: Deep Learning and Convolutional Neural Network

Week 4

Instructions:

Setup Google Colab and Google Drive:

- Login to your Google Drive using your Student/personal email address
- Under "42028" folder, you should find "Week4" folder. *Please note folder should be already there if you have executed the setup script in week-1.*

- From Canvas, download the following notebooks and dataset
  1. Week4-LogisticRegression-NeuralNetwork-Part-2.ipynb
  2. Week4-NeuralNetworks-Mult-Layered.ipynb
  3. Cats and Dogs Dataset (Link available on Canvas),

Upload the notebooks and the dataset to "Week4" folder on your Google Drive.

Tasks for Week4 are:

A. **Implement Logistic Regression classifier to classify Dogs and Cats:**

1. Complete the implementation of Sigmoid activation function
2. Complete the implementation of the Log loss cost function
3. Complete the implementation of Gradient Descent algorithm
4. Train and test the logistic classifier to classify cats and dogs

B. **Implement Linear Classifier using Neural Network: Multi-Layered and multi-class classifier:**

1. Implementation of Neural Network for classification using Keras API.
2. Train and test model