CS231n HW1/TF2 CNN (2D) Assignment 2.1: Two Layer Neural Network

Author: Jun Soo Lee (Jason) Lee (Jason) Lee (Jason) Lee (Jason) Lee (Jason)
Email: jsleejason@gmail.com, jsleejason@naver.com, jsleejason@daum.net
Linkedin: https://www.linkedin.com/in/jsleejason/

Implementation Details

- Implement the forward and backward pass for a fully-connected two-layer neural network. Neural network objective function is the softmax loss and the SVM hinge loss. Implement the SGD and SGD+momentum update rules and learning rate decay. Implement a hyperparameter optimization procedure that works well for a fully-connected two-layer neural network. Implement a batch normalization and layer normalization for more powerful networks.
- Keywords: Neural Network, Softmax, SVM, Hinge Loss, Gradient, Chain Rule, Backpropagation, Optimization, Hyperparameter Optimization, Learning Rate Decay, Batch Normalization, Layer Normalization, Dropout
- Tags: Two Layer Neural Network, Softmax, SVM, Hinge Loss, Gradient, Chain Rule, Backpropagation, Optimization, Hyperparameter Optimization, Learning Rate Decay, Batch Normalization, Layer Normalization, Dropout, Image Classification, CS231n, Convolutional Neural Networks for Visual Recognition, Stanford University, Assignment 2.1, Two Layer Neural Network, Jun Soo Lee (Jason) Lee (Jason) Lee (Jason) Lee (Jason) Lee (Jason), jsleejason@gmail.com, jsleejason@naver.com, jsleejason@daum.net, https://www.linkedin.com/in/jsleejason/

Install classic cs231n

All of the dependencies are listed in the classic cs231n requirements.txt. Run the following command to install it:

```
!pip install -r /content/drive/MyDrive/cs231n/requirements.txt
```

```
Collecting attrdict==2.0.1
  Downloading attrdict-2.0.1.tar.gz (5.6 kB)
Collecting boto3==1.17.106
  Downloading boto3-1.17.106-py2.py3-none-any.whl (135 kB)
     |▓▓▓
```