

Homework 2_2

Due: 2021-10-27 (Wed.) 8pm

Introduction

In this assignment you will master basic neural network adjustment skills and try to improve deep neural networks: Hyperparameter tuning, Regularization and Optimization, Batch Normalization.

- this time you will be given two subtasks: Regularization, Batch Normalization.

• Setup

- **Start IPython**

you should start the IPython notebook from the `homework_2_2` directory, with the jupyter notebook command.

• Experiments

There are `#### START CODE HERE`/`#### END CODE HERE` tags denoting the start and end of code sections you should fill out. Take care to not delete or modify these tags, or your assignment may not be properly graded.

- **Q1: Regularization (50 points)**

The IPython Notebook Regularization.ipynb will walk you through implementing the weight Initialization.

- **Q2: Batch Normalization (50 points)**

The IPython Notebook BatchNormalization.ipynb will walk you through implementing the Gradient Checking.

- **See the code file for details.**

• Submission

You need to accomplish the following files:

- 1) **Improve deep neural networks**

- Regularization.ipynb
- BatchNormalization.ipynb (layers.py)

- 2) **Report**

- Please convert your experiment report to PDF format
- You just need to upload all your code and report and do not upload datasets.