

EE239AS, Winter 2021

Neural Networks & Deep Learning
UCLA ECE

Homework #4

Prof. J.C. Kao
TAs: N. Evirgen, A. Ghosh, S. Mathur, T. Monsoor & G. Zhao

Due Wednesday, 10 Feb 2021, by 11:59pm to Gradescope.
100 points total.

1. (35 points) **Implementing different optimizers for a fully connected network.** Complete the Optimization.ipynb Jupyter notebook. Print out the entire workbook and relevant code and submit it as a pdf to gradescope. Download the CIFAR-10 dataset, as you did in HW #2 and #3.
2. (35 points) **Implementing batch normalization for a fully connected network.** Complete the Batch-Normalization.ipynb Jupyter notebook. Print out the entire workbook and relevant code and submit it as a pdf to gradescope.
3. (30 points) **Implementing dropout for a fully connected network, and optimizing it.** Complete the Dropout.ipynb Jupyter notebook. Print out the entire workbook and relevant code and submit it as a pdf to gradescope.