A2
Deep Learning 2015, Spring

Throughout this assignment we introduce STL-10, here the short description from their website `http://cs.stanford.edu/~acoates/stl10/`.

"The STL-10 dataset is an image recognition dataset for developing unsupervised feature learning, deep learning, self-taught learning algorithms. It is inspired by the CIFAR-10 dataset but with some modifications. In particular, each class has fewer labeled training examples than in CIFAR-10, but a very large set of unlabeled examples is provided to learn image models prior to supervised training. The primary challenge is to make use of the unlabeled data (which comes from a similar but different distribution from the labeled data) to build a useful prior. We also expect that the higher resolution of this dataset (96x96) will make it a challenging benchmark for developing more scalable unsupervised learning methods."

Task
Your task is to download the data and train a model. As with the first assignment you are required to hand in a deployment of your model, which includes the weights and the ability to produce predictions on top of the raw test set.

Evaluation

- 30% - Kaggle performance
- 40% - Two page paper (brevity preferred)
- 30% - Simple, readable, commented code of final, working algorithm able to execute on test data as found on the Kaggle competition

The paper should consist of a

- description of the architecture (number and type of layers, number of neurons, size of input)
- description of the learning techniques applied (which data augmentations?, used dropout?, etc.)
- description of the training procedure (learning rate, momentum, error metrics used, train/validation split, training/validation/test error)

Happy training!

Additional resources
`https://github.com/clementfarabet/lua---mattorch`