Homework 13
Due Dec 10 (Monday)

Consider the MNIST dataset. Change the sample labels so that each sample is labeled as 0 if the image is not a 3 and 1 if the image is a 3. (See the mnist_intro.R script in the Dec 3 script folder for details on loading and parsing the dataset.) From the training datasets, consider only the first 1000 samples. Using the caret package and only these first 1000 samples, train a neural net to identify images of the number 3. Train the neural net i) with decay=0 and then ii) with decay allowed to vary. Use cross validation to select the appropriate number of nodes and, in the case of part ii, decay. Finally, use the test dataset to evaluate the accuracy of your neural net.

Submit your results to dropbox as before, in the form of a pdf file from Rmarkdown. But, as for the previous homework, you should fork SLeviyang/Homework-13, clone the forked repo to your machine, complete the homework, sync your github repo, and finally issue a pull request. As before, put all your files in a subdirectory with your name, e.g Sivan/, so that when I pull your different forks there are no collisions between filenames.