Unit 12: Case Study

Take a subset of the data and run the neural net presented in class:

N can be any number greater than 1 million, but less than 10.5 million (8GB Ram recommended for all the data).

data source: https://archive.ics.uci.edu/ml/machine-learning-databases/00280/

Work (10 points each)

1. Pick 3 or more different architectures (add/subtract layers+neurons) and run the model + score.
2. With those same 3 architectures, run the SAME architecture but with 2 different (from sigmoid) activation functions. Google the Keras documentation for a look at different available activations.
3. Take your best model from parts 1&2 and vary the batch size by at least 2 orders of magnitude
4. Take your best model (score) from parts 1&2 and use 3 different kernel initializers. Use a reasonable batch size.
5. Take your best results from #3 and try 3 different optimizers. ([LMGTFY](http://lmgtfy.com/?q=Keras+Optimizers))
6. Take all that you’ve learned so far and give your best shot at producing a score.

**Questions to be answered** (These are loaded questions—be warned they are there to test your understanding):

10 points - Q1: What was the effect of adding more layers/neurons.

10 points - Q2: Which parameters gave you the best result and why (in your opinion) did they work.

20 points Q3: For #6, how did you decide that your model was ‘done’