Machine Learning Assignment

In this assignment you will be required to demonstrate your knowledge of machine learning techniques, your ability to apply technical skills to build actual machine learning models, and your capacity to evaluate state-of-the-art machine learning approaches.

Marking Scheme

Please **see the rubric** (attached as a separate file to the Brightspace assignment) for a full breakdown of how marks will be allocated for this assignment.

All Kaggle competitions require you to build a predictive machine learning model which will be evaluated against other Kaggle competitors.

Steps

1) Pick a Kaggle contest to enter
   a) Pick whichever contest interests you most (as long as it involves building predictive models) - aim high!
   b) Be careful of the dates associated with the contest you choose. Although the contest does not have to be complete before the end of this assignment, make sure that the Kaggle contest dates will give you enough time to work on your model before the contest closes and data becomes unavailable.
2) Develop models to address the problem in the contest - you may want to evaluate a number of different models to determine which works best
3) Perform a local evaluation of your models separate to the Kaggle evaluation. Use whatever approach to evaluation you think is most suitable.
4) Submit models to be evaluated by Kaggle.

Submission

The primary submission will be a document of no more than **eight pages** (11pt Calibri or equivalent, 1.15 line spacing), including all diagrams and references, describing the following:

- The Kaggle contest you entered, and why you chose it
- The model(s) that you build including important parameters and justification for all choices (include screenshots from whatever tools used as appropriate)
- A discussion of the local evaluation strategy you adopted
- A discussion of the evaluation results
- A screenshot of your Kaggle performance report
- Suggestions for what you might do to continue the work if you had time

You will also submit your code with appropriate comments that explain what you have done.