**Assignment 2**

**In brief:**

Choose a Data Science field and use Shiny to communicate it. The communication should be something that teaches the use of the chosen algorithm through interaction. The deliverable will be a shiny application that I should be able to run and score.

You should pick one of the following fields

* text sentiment analysis
* multi-level classification (not binary classification)
* outlier detection
* dimensional reduction

There will be multiple functions from multiple packages that are involved in each field. Choose one (or more if you are want to) and use a suitable data set. For suggestions about suitable data sets look at the data sets that come with the package and is typically used in example code in its documentation.

**This assignment will demonstrate**

1. your ability to self-discover algorithmic aspects of R packages
2. your grasp of Shiny
3. your ability to engage a user through the appropriate use of controls
4. your ability to communicate clearly.

The Internet, Shiny Gallery examples and this course’s examples will serve as the study material for this assignment.

**Steps:**

1. Choose an algorithm that interests you.
2. Research the packages that such algorithms reside in (there may be several). Come to understand what the parameters do / how it works. Come to appreciate what kind of data is going to suit the model. Look at package vignettes and package example-code.
3. Choose some data (or maybe several sets of data) that you are going to use in the Shiny app.
4. Plan what summary stats & visualisations you should display.
5. Design and build your Shiny app. Include text to explain what is going on. (Imagine you are using this in a lecture to teach a topic). Maybe a “tabset” will be a good way of keeping everything organised on a single screen without scrolling. Will you need any check-boxes, selectors etc to control the parameters?
6. Test your app as before.
7. Submit you app. **Please ensure your name is clearly visible on the Shiny web page.**

**Marking:**

You must work individually - no teams.

The deliverables should be standard Shiny files. No extra files of explanation. CSV files are permitted.

At least one of the algorithms will have been demonstrated in a lab. Ensure that you take this prototype considerably further to achieve well in the assignment.

**Note:**

The due date is at the beginning of the mid-semester break. As always late assignments will incur 10% penalty per day