The Data-Shack workshop: W5. Big Data Analytics (3 days)

(Convert data to insights) - **Bring your own data and business questions ("points of pain") and we'll teach you the analytics**

Prerequisite

Intermediate analytics (2 days)

Preparation

At least 2 weeks prior to workshop date, the following are required:
- business "points of pain" to be addressed
- clean data to confirm applicability

Objectives

Using your own data, introduce delegates to:
- the objectives and benefits of data mining
- methods related to unsupervised learning, where dependent variables are not known/used
- methods related to supervised learning, where the dependent variables are known

Description

This three-day workshop opens the incredibly rich world of data mining. Too often, we have huge data resources but make little use of that data. Data mining enables one to tap into this wealth of data and derive useful, actionable insights that can be used to drive decision making in your business.

Outcome

Delegates will leave the workshop with an excellent understanding of Big Data & Data Mining Techniques and how they are applied across operational environments to solve complex problems with large data sets.

Topics*

1. Introduction to data mining
    1.1. What is data analysis and data mining?
    1.2. Asking the right questions from data
    1.3. How are analytics and data mining used?
    1.4. Case studies
2. Unsupervised learning
    2.1. Cluster analysis
    2.2. Principal components analysis
    2.3. Correspondence analysis
    2.4. Association analysis
    2.5. Text mining
3. Supervised learning
    3.1. Discriminant analysis
    3.2. Logistic regression
    3.3. Classification and regression trees
    3.4. Improving weak predictors
    3.5. Multivariate adaptive regression splines
    3.6. Support vector machines
    3.7. Neural network models

* Note that the list of topics covered may vary slightly depending on the nature of the business questions to be answered, and the content of the supporting data supplied by the delegates

Timing

10:00 – 11:00 Session 1 (1 Hour)
11:00 – 11:15 Break (15 min)
11:15 – 12:15 Session 1 (1 Hour)
12:15 – 12:45 Lunch (30 min)
12:45 – 13:45 Session 1 (1 Hour)
13:45 – 14:00 Break (15 min)
14:00 – 15:00 Session 1 (1 Hour)