Big Data Analytics: A Primer and Practicum

Course Proposition and Executive Summary

The need for the World to make sense of big data has never been more pressing. Data researchers tell us that 90% of the World's data currently was said to be generated in the last 2 years. Never in history have we witness such a rise in terms of the creation of data and it can only get bigger -- exponentially.

The US bureau of Labor recently released a report projecting a 22% increase in demand for professionals in the analytics arena with Harvard Business Review projecting yet another increase in demand of professionals who are able to make sense of these data running into the hundreds of thousands in the next decade or so. The World is short of data professionals who could not just make sense of these veracious amounts of data, but also able to draw insights and apply them in decision-making whether is it in the public service of public safety, education or health services, or the private sector in achieving tangible business impacts like increases in return on investments (ROI).

This course therefore aims to equip individuals with the ability to make sense of both structured and unstructured data. Using analytical methodologies and frameworks, participants will learn not just about important concepts in big data analytics but will also get a chance to apply what they have learnt in the classroom through a practicum where they will work on live data in using big data analytics in addressing pressing business issues. Conducted interactively with case studies and real data, participants who successfully complete the course will take away with them the skills and knowledge to running a full cycle of a big data project.

Who is this course for?

This course is specially designed for data analysts, researchers and executives who are interested to learn more about big data analytics and analytics project management skills. This 4-day workshop (or, in the case of the "accelerated" programme, a 2-day session) comes with a practicum aimed to equip attendees with real world data analytics exposure and therefore also caters to those who may want to learn about applications and to gain hands-on experiences in the big data analytics arena.

Participants who may not have the relevant training will find this course useful and enriching, while those who may have some training or working experience in this area will find this course offering fresh insights into the big data analytics space.

Participants should ideally possess a tertiary qualification and be generally comfortable with quantitative discussions, applications and working with models and algorithms.

Course Contents

- Introduction to big data analytics: The rise of big data and analytical tools
- Data warehousing: Databases and its role in big data analytics
- Programming and data manipulation in big data analytics
- Frameworks and methodologies of big data analytics
- Introduction to statistics and its role in big data analytics
- Applications of big data analytics:
    - Predictive Analytics
    - Segmentation Modeling
    - Association Rule Mining
- Introduction to unstructured data analysis: Sentiment analysis
- Champion model comparison and evaluation
- Big data analytics project management and implementation
- Case studies and applications of big data analytics
- Practicum: Using live data to implement a big data analytics project

*Software will be provided during training and participants will be taught how to use them during the course

Course Objectives

At the end of this course, Participants will be able to:

1. Describe the rise of big data and big data technology and the role predictive models play in terms of big data development
2. Design and propose the use of relevant analytical methodologies to formulate a big data solution in addressing organizational challenges
3. Design, create, evaluate and assess the strengths and weaknesses of various big data modelling techniques
4. Plan, execute and implement big data analytics solution
5. Assess and evaluate analytical model performance in addressing business objective(s)
6. Select champion models to draw conclusion in answering business challenges
7. Describe best practices of big data analytics and analytical pitfalls to avoid

Pre-requisite

Participants should ideally possess a tertiary qualification and be generally comfortable with programming, quantitative discussions, applications and working with models and algorithms.

Mode of Assessment

Participants are required to sit for an open-book quiz and participate in a practicum program of which details will be made known to the participant. Practicum is an assignment given to participants to work on live data applications where participants will be graded in accordance to the course objectives to ensure they are met in a practical way.

Price Schedule

$1,600/pax Nett (i.e. for the full 4-day class), or

$990/pax Nett (i.e. for the accelerated 2-day class)

Certificates/Awards

Certificate of Performance/Achievement will be awarded if participant satisfies the course criteria.