A Primer for Big Data, Credit Risk and Fraud Analytics
By Ng JinSheng

INTRODUCTION

Businesses are often plagued by credit risk exposures such as fraudulent activities. According to the National Fraud Authority, it is estimated that more than USD$100 Billion are lost to fraud transactions in the United Kingdom annually, and in the United States, that figure is more than USD$40 Billion according to the Federal Bureau of Investigation (FBI). Notwithstanding the financial impact felt by large entities such as the State or Institutions, perpetrators and fraudster are often creative in their ways of exploitations, taking advantages of systemic weaknesses to their advantage.

Come discover how you can make sense of credit risk and fraud analytics through the lens of big data and how you can triumph and negate risk and exposure to fraudulent activities by achieving an unparalleled competitive advantage with the Power of Data and Analytics and be amazed by how simple approaches such as predictive analytics and social network analysis can uncover game-changing insights for your unique business advantage.

As a 2-day Primer boot camp class, this course assumes little knowledge and background in risk and fraud analytics. The class starts off with an introductory overview of the domain of risk and fraud, and participants are eased into the learning though the use of methodologies, frameworks and processes which guides the learner to effectively understand how big data may be applied in the arena of credit risk and fraud management.

LEARNING OBJECTIVES

By the end of this workshop, participants will be able to:

- Design and formulate the use of relevant analytical methodologies to formulate a big data solution in addressing credit risk and fraud analyses
- Plan, execute and implement big data analytics solution to make better business decisions in the arena of risk management
- Develop models for effective credit risk management and fraud detection using machine learning approaches
- Apply predictive, descriptive and social network analytics to achieve competitive advantage
- Apply data-driven business decision-making principles for effective risk management purposes

COURSE OUTLINE

1. Introduction to Big Data Analytics
2. A Paradigm Shift and the 4th Industrial Revolution
3. The Rise of Big Data and its role in credit risk and fraud analytics
4. Data Driven Decision Making Made Simple
5. The Fraud Triangle
6. The Fraud Management Cycle
7. A Process Model and Methodology for Credit Risk and Fraud Framework
8. Predictive Analytics in Credit Risk
9. Machine Learning for credit risk modelling
10. Case Study: Profiling analysis for Credit Risk Modelling
11. Descriptive Analytics in Fraud Detection and Management
12. Machine Learning for fraud analytics
13. Case Study: Insurance and Credit Card Fraud Analytics
14. Social Network Analytics for Risk Management
15. Introduction to Social Network Analytics
16. Social Network Analytics for Fraud Management
17. Strategy Formulation for Credit Risk and Fraud Analytics

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Participants who may have some background in credit risk and fraud analytics will find this course offering refreshing insights, especially in the area of predictive, descriptive and social network analytics and how these methods have helped others achieve competitive advantage.

ABOUT THE TRAINER

Mr. Ng Jinsheng joined IBM SPSS in 2008 as an Executive in Training and Consulting after his graduation from the National University of Singapore (NUS) with a Degree in Statistics and Applied Probability. During his stay in IBM SPSS, he has trained hundreds of participants from the public service and private sector in statistical and data mining concepts, tools and applications in solving business problems. He has also led consulting projects and worked with C-level executives in addressing pressing business issues during which he received many praises and testimonies. During his working with IBM SPSS, Mr. Ng Jinsheng also completed his Masters of Science in Knowledge Management [M.Sc(KM)] from the Nanyang Technological University (NTU) and graduated one of the top in his cohort with a Dean's List award in academic excellence. He later joined SAS Institute as an Education Specialist in the Training department, and thereafter as a Senior Associate in professional Consulting services, where he won the "Excellence in Service" Award for founding and championing the inaugural Inter-Varsity Analytics Competition in 2014 (Singapore). Throughout his working experience with Training and Consulting Companies, he has had the privilege to be able to work with both local and international Banks in the arena of financial analytics and he is also personally involved in fraud analytics modelling and deployment work at the National level.

An academic paper he has co-authored was nominated for the Best Paper Award in the 20th International Conference on Computers in Education in 2012. He is currently a founding member of AnaVantage Management Consultancy LLP, and lectures and trains at Tertiary Institutions in Singapore in the area of business statistics, data mining and big data analytics, and develops analytics courses for undergraduate programmes in Singapore. Professionally recognized by the Project Management Institute (PMI) as a Certified Associate in Project Management (CAPM), he is also an IBM Business Analytics Certified Specialist in IBM SPSS Modeler (Professional) and IBM SPSS Statistics, as well as SAS Certified Predictive Modeler using SAS Enterprise Miner and SAS Certified Business Analyst using SAS 9: Regression and Modeling.

Professionally as a Trainer, Jinsheng possessed an Advanced Certificate in Training and Assessment (ACTA) conferred by the Workforce Development Agency of Singapore (WDA) and a proud recipient of the prestigious "Excellence in Teaching" Award (EIT) conferred by the Singapore Polytechnic (SP) during the Annual Excellence in Teaching and Training Convention in 2015. He is also conferred the title of an Associate Adult Educator (AAE) by the Institute of Adult Learning (IAL), Singapore in 2016, an Adult Educators' Professionalisation recognition which awards pedagogical and professional excellence in teaching and training.