

Deloitte.



Deloitte School of Analytics

**Demystifying Data Science: Leveraging this phenomenon to drive
your organisation forward**

February 2018

Agenda

	7 February 2018	8 February 2018	9 February 2018
8:00 – 9:00	Networking Breakfast	<ul style="list-style-type: none"> • Practical Application of Machine Learning and Artificial Intelligence • Data Architecting for the Future: Agile Logical Data warehouse Architecture • Demystifying Data Science 	<ul style="list-style-type: none"> • Practical Application of Machine Learning and Artificial Intelligence • Data Architecting for the Future: Agile Logical Data warehouse Architecture • Demystifying Data Science
9:00 – 9:15	Welcome & Introductions		
9:15 – 10:00	Key-note Address by Larry Keeley		
10:00 – 10:15	Tea break	Tea break	Tea break
10:15 – 11:00	Panel discussion: Becoming a data driven organisation in the age of robotics	<ul style="list-style-type: none"> • Practical Application of Machine Learning and Artificial Intelligence • Data Architecting for the Future: Agile Logical Data warehouse Architecture • Demystifying Data Science 	<ul style="list-style-type: none"> • Practical Application of Machine Learning and Artificial Intelligence • Data Architecting for the Future: Agile Logical Data warehouse Architecture • Demystifying Data Science
11:00 – 11:45	Case Study		
11:45 – 12:00	Closing and wrap up		
12:00 – 13:00	Lunch	Lunch and Case Study / Breakaway Session	Lunch and Case Study / Breakaway Session
13:00 – 15:00	<ul style="list-style-type: none"> • Practical Application of Machine Learning and Artificial Intelligence • Data Architecting for the Future: Agile Logical Data warehouse Architecture • Demystifying Data Science 	<ul style="list-style-type: none"> • Practical Application of Machine Learning and Artificial Intelligence • Data Architecting for the Future: Agile Logical Data warehouse Architecture • Demystifying Data Science 	<ul style="list-style-type: none"> • Practical Application of Machine Learning and Artificial Intelligence • Data Architecting for the Future: Agile Logical Data warehouse Architecture • Demystifying Data Science
15:00 – 15:15	Tea break	Tea break	
15:15 – 17:00	<ul style="list-style-type: none"> • Practical Application of Machine Learning and Artificial Intelligence • Data Architecting for the Future: Agile Logical Data warehouse Architecture • Demystifying Data Science 	<ul style="list-style-type: none"> • Practical Application of Machine Learning and Artificial Intelligence • Data Architecting for the Future: Agile Logical Data warehouse Architecture • Demystifying Data Science 	

Detailed track content breakdown per day

	Practical Application of Machine Learning and Artificial Intelligence	Data Architecting for the Future: Agile Logical Data warehouse Architecture	Demystifying Data Science
7 February 2018	<ul style="list-style-type: none"> • Introduction to AI and Deep Learning – Part 1 	<ul style="list-style-type: none"> • Characteristics of Traditional Data Warehouse Architectures • Incorporating Big Data Technology, such as Hadoop and NoSQL, in BI Systems • The Logical Data Warehouse Architecture and the Concept of Abstraction • Combining Data Warehouses and Data Lakes • The Pros and Cons of Moving the Data Warehouse to the Cloud • From Operational BI to Fast Data and the Internet-of-Things • Data Warehouse Automation • Data Vault for Compliancy 	<ul style="list-style-type: none"> • What is the Organisational Value of Data Science? • How is Data Science Different from Data Analytics? • What are the Skills Needed for Data Science? • What Does a Data Scientist Do All Day? • Orientation to Big Data • Trends within the analytically competitive organisation • The advent of Data Science • What is predictive analytics' role in Big Data? • ROI of data science, big data and associated analytics • The future of data science, big data and advanced analytics

Detailed track content breakdown per day

8 February 2018	Practical Application of Machine Learning and Artificial Intelligence	Data Architecting for the Future: Agile Logical Data warehouse Architecture	Demystifying Data Science
	<ul style="list-style-type: none"> • Introduction to AI and Deep Learning – Part 2 • Introduction to Data Mining in Python with the inclusion of Tensorflow – Part 1 	<ul style="list-style-type: none"> • Challenges for the Classic Data Warehouse Architecture • Implementing a Logical Data Warehouse with Data Virtualisation Servers (includes a Market Overview) • Importing non-relational data, such as XML and JSON documents, web services, NoSQL, and Hadoop data • Improving the Query Performance of Data Virtualisation Servers • Query Optimisation Techniques • Caching of Virtual Tables to Improve Performance • Big Data and the Logical Data Warehouse • Design Guidelines for a Logical Data Warehouse • Dealing with Data Quality and Master Data • Self-Service BI and the Logical Data Warehouse • Migrating to a Logical Data Warehouse • Physical Data Lakes or virtual Data Lakes? • The Logical Data Warehouse and the Environment 	<ul style="list-style-type: none"> • Stats 101 in ten minutes • A / B testing and experiments • BI vs predictive analytics • IT's role in predictive analytics • Statistics and machine learning: complementary or competitive? • Primary project types • Common analytic algorithms • Popular tools to manage large-scale analytics complexity • Performing a data reconnaissance • Building the analytic sandbox • Preparing train / test / validation data • Defining data sufficiency and scope • The Modeling Practice Framework™ • The elements of an organisational analytics assessment • Project Definition: The blueprint for prescriptive analytics • The critical combination: predictive insights & strategy • Establishing a supportive culture for goal-driven analytics • Defining performance metrics to evaluate the decision process • What is the behavior that impacts performance? • Do resources support stated objectives? • Leverage what you already have • Developing and approving the Modeling Plan • Selecting the most strategic option • Planning for deployment • Measuring finalist models against established benchmarks • Preparing a final Rollout Plan • Monitoring model performance for residual benefit

Detailed track content breakdown per day

9 February 2018	Practical Application of Machine Learning and Artificial Intelligence	Data Architecting for the Future: Agile Logical Data warehouse Architecture	Demystifying Data Science
	<ul style="list-style-type: none"> • Introduction to Data Mining in Python with the inclusion of Tensorflow – Part 2 	<ul style="list-style-type: none"> • The Hadoop software stack explained, including HDFS, MapReduce, YARN, Hive, Storm, Sqoop, Flume, and HBase • Spark is about in-memory analytical processing • Market overview of SQL-on-Hadoop Engines • Classification of NoSQL database servers: key-value stores, document stores, column-family stores and graph data stores • Overview of Analytical SQL Database Servers - Big SQL • The Coming of GPU SQL Databases • Technologies for fast data and streaming analytics • NewSQL Database Servers for Big Transactional Workloads • Graph Database Servers and Search Technology 	<ul style="list-style-type: none"> • Attracting and hiring the right analytic talent • The roles and functions of the fully-formed analytic project team • Specialisation in analytic project teams • Analytic opportunity identification, qualification and prioritisation • Organisational resistance and developing a culture for change • Project failure is not the worst outcome • Staging the organisational mind shift to data-driven decisioning • Motivating adoption by domain experts, end users and leadership • Recording ongoing organisational changes • Monitoring and advancing organisational analytic performance • “Democratising” analytics: Advantages and risks of “self-service” • Standing up an agile analytic modeling factory • Knowledge retention and skill reinforcement • The Future of Data Science and Advanced Analytics • From Rhetoric to Reality • Biggest Driver of Analytic Innovation • What’s Next in Data Science? • Defining Your Organisation’s Data Science Reality



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