

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

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

# Detailed track content breakdown per day

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

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



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