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### COURSES

#### DATA STORYTELLING FOR BUSINESS

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#### EXCEL ANALYTICS NINJA

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#### ADVANCED VISUALIZATION & DASHBOARD DESIGN

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Data is useless without the skill to analyse it.

Data alone is merely a commodity. It’s data scientists and analysts who breathe life into this data and create value, advantage and impact. And the business world agrees—McKinsey predicts that the United States alone faces a shortage of 140,000-190,000 people with deep analytical skills.

We train analytics professionals so that they are prepared to face the challenges and opportunities posed by the new data environment.

Our difference - real business datasets.

Computer science and statistics courses from the university sector do not create professionals who are prepared for the rigors of commercial data. Real business data is often large (millions of rows), high dimensional (hundreds of variables), unstructured and high velocity. It is also rarely clean, awash with missing values, data breaks and outliers.

All of our courses utilize real commercial datasets that will prepare you for the information you will encounter in your next role as a data scientist or analyst.

“You cannot give me too much data. I see big data as storytelling — whether it is through information graphics or other visual aids that explain it in a way that allows others to understand across sectors. I always push for the full scope of the data over averages and aggregations — and I like to go to the raw data because of the possibilities of things you can do with it.”

Mike Covaretta
Data Scientist and Manager, Ford Motor Company
Data science and analytics is revolutionizing business across all industry verticals. Since 2015, we’ve trained over 300 companies, government departments and NGOs in fundamental data science skills. From banking to telcos and retail to real estate: we’ve trained people in your field.
OUR FACULTY

Learn from the thought leaders in the field

DataSeer is an analytics and data science training provider that has been offering innovative public and private training courses since 2015.

DOMINIC BOHAN

Dom brings a wealth of data storytelling experience from his career at QBE, one of Australia’s largest insurance companies, where he was a leader in analytics, procurement and business improvement.

He has been responsible for negotiating multi-million dollar contracts with suppliers, presenting data driven strategy recommendations to the company’s senior executives, and producing reporting for the Group Board of Directors.

JAY MANAHAN

A data storytelling expert, Jay is concurrently a trainer at DataSeer and Head of Operations at Magpie.IM, an online payments startup.

In his prior role, Jay was the Head of the Manila Shared Services Center for Kforce (Nasdaq: KFRC) and a Business Development Director at analytics company, Sencor. Jay holds an MBA and B.S. in Mathematics from Ateneo de Manila University. He was a winner of the 2017 Grab Data Visualization challenge.

ISAAC REYES

Prior to founding DataSeer, Isaac held the position of Head of Data Science at Altis, Australia’s largest information management consultancy. At Altis, Isaac led a team of data scientists who design analytics and machine learning solutions for enterprise clients throughout AU/NZ.

A former university lecturer in statistics at the Australian National University, Isaac is also a TEDx speaker and a regular keynote at big data conferences.

Isaac holds a Master’s Degree in Statistics from the Australian National University and a Bachelors Degree in Actuarial Science from Macquarie University.

MARTIN NG

Martin Ng has gathered more than a decade of training and teaching experience at the Singapore Institute of Management Global Education (SIM GE) and Singapore Polytechnic (SP), specializing in the field of data analytics and business IT.

He has consistently received feedback scores amongst the top 20% of his peers and is highly skilled in developing and delivering curriculum and materials that combine a mix of both theory and practical hands-on for both undergraduates and working professionals.
# DATA STORYTELLING FOR BUSINESS

**Course duration:** 2 Days  
**Laptop Specs:** Minimum required specs of Intel i3 processor, 2GB RAM. Either Mac or Windows operating system  
**Required Software:** Any data visualization software package (e.g. Excel, Tableau, PowerBI, Qlik, R, Python) and Powerpoint

Data Storytelling is predicted to be the top business skill of the next 5 years.

Well told data stories are change drivers within the modern organisation. But how do we find the most important insights in our business data and communicate them in a compelling way? How do we connect the data that we have to the key underlying business issue?

This course takes students from the fundamentals (what should we be measuring and why?) through to the elements of good visualisation design (what does a good chart look like?) through to proficiency in data storytelling. By the end of the course, participants will know how to produce engaging, cohesive and memorable data stories using Excel and PowerPoint. The course also teaches attendees the importance of producing statistically robust visualisations and insights.

**Suitable for**

This is our most popular course. It’s suited towards any professional who works with data and charts. If you need to tell better stories with your data, then this course is for you.
COURSE OUTLINE - DAY 1

I. Introductions, Ice Breaker (9:00am - 9:15am)

II. Audience (9:15am - 10:15am)
   - Making your audience the ‘hero’ of your data story
   - Chart Junk
   - Data Ink Ratio
   - Pre-attentive attributes
   - The Cleveland McGill Scale
   - Gestalt Principles of Visual Perception

III. Break (10:15am -10:30am)

IV. Visuals (10:30am - 11:10am)
   - Charts vs Tables vs Impact Metrics
   - Visualization Selection Framework
   - Graphic Design Principles for Impact Metrics
   - Table Design Best Practice

V. Viz Arsenal (11:10am - 12:00nn)
   - Bar chart best practices
   - Pie Chart Best Practices
   - Line Chart Best Practices
   - Slopegraphs and Staged Line Charts
   - Enclosures
   - Scatterplots

VI. Lunch (12:00nn - 1:00pm)

VII. Interactive workshop task (1:00pm - 4:00pm)
   - Instructor will rotate around groups and provide personalized assistance

VIII. Workshop presentations and judging (4:00pm - 5:00pm)
COURSE OUTLINE - DAY 2

I. Color in Data Storytelling (9:00am - 9:30am)
   - Color Psychology
   - The Munsell Color system
   - Sequential, Diverging and Categorical Palettes
   - Contrast ratio
   - Color Blindness

II. Data (9:30am - 10:15am)
   - Cleaning and preparing your data
   - Metric selection
   - Missing Values and Outliers
   - Introduction to pivot tables

III. Break (10:15am - 10:30am)

IV. Narrative (10:30am - 12:00nn)
   - Presentation Medium Selection Framework
   - Storyboarding
   - Deck Transformation

V. Lunch (12:00nn - 1:00pm)

VI. Interactive workshop task (1:00pm - 4:00pm)
   - Instructor will rotate around groups and provide personalized assistance

VII. Workshop presentations and judging (4:00pm - 5:00pm)
Excel Analytics Ninja

Course duration: 2 Days
Laptop Specs: Intel i3 processor, 2GB RAM. Either Mac or Windows OS.
Required Software: Excel and Powerpoint 2013 or later.

Learn the fundamentals of business analytics in this two day intensive program.

Some executives mistakenly believe that the majority of value in business datasets is only unlocked by applying advanced statistical and machine learning techniques. In practice, most of the value in business data is derived by asking relatively simple questions that can be answered using basic data manipulation and common metrics (e.g. averages, totals, counts and percentages).

That said, the ability to ask the right business questions and answer them with the right metrics is a fundamental analytics skill that is sorely lacking in the skillset of most data analysts and managers. Why? University statistics and math programs don’t prepare graduates for the challenges and pace of the business setting. In this Excel based course, participants will learn how to progress through the full data driven decision making process, from identifying the business question through to hypothesis development, data manipulation and presenting of results.

Suitable for

This is our second most popular course. It’s suited to any professional who needs to make decisions using business data.
I. What is the end goal of this course? (9:00am - 9:05am)

II. Keys to Effective Analytics: Exploratory Data Analysis (EDA) (9:05am - 9:15am)
   - What is EDA?
   - Context: understanding the data and its source
   - Variables: knowing and classifying data into various data types
   - Wrangling: performing basic data munging to address missing values, outliers, input errors
   - Analysis: discovering univariate and bivariate relationships in the data
   - Visualization: using charts and graphs to present your analytics

III. Context and Variables: Understanding the Data (9:15am - 9:45am)
   - Questions to ask of your dataset
   - What are the different types of data?
   - Fancy statistics terms vs. their common business meanings
   - Classifying the variables of the course dataset
   - Numeric variables: continuous and discrete
     - Date variables
   - Categorical variables
     - Categorical variables that appear numeric and vice-versa
     - Continuous variables that appear discreet and vice-versa
   - Dummified data: what they look like and why they exist
   - Formatting data according to their variable types

IV. Wrangling: Using Formulae, Filtering, and Sorting to Manipulate Data (9:45am - 10:15am)
   - Querying your data
   - Sorting data according to various dimensions and multiple levels
   - Identifying and extracting metrics needed to generate or prove certain insights
   - Manipulating text or string data
   - Working with dates
   - Wrangling data through arrays
   - Optional wrangling:
     - Performing a sanity check on the data
     - Addressing missing values, outliers, and input errors
     - List-wise deletion and case-wise deletion

V. Q&A / Break (10:15am - 10:30am)
VI. Univariate and Multivariate Analysis: Leveraging Excel Features for Analyzing Data (10:30am - 12:00nn)

- Querying your data to make relevant analysis
  - e.g. top x%, above/below average, between x and y, contains x
- Choosing the right metrics, according to the insight to be supported
  - Apples-to-apples metrics: proportions or averages
  - Absolute size metrics: counts or totals
- Calculating percentages and understanding their meanings
  - rates, % breakdowns or % contributions, growth rates
- Summarizing your data into logical groupings
- Other ways to summarize your data
  - Increases/decreases
  - Running totals
  - Rankings

VII. Lunch (12:00nn - 1:00pm)

VIII. Workshop (1:00pm - 4:00pm)

IX. Group Work Submission Deadline (4:00pm - 4:15pm)

X. Group Presentations, Feedback and Wrap Up (4:15pm - 5:00pm)
COURSE OUTLINE - DAY 2

I. Day 1 Recap (9:00am - 10:15am)
   - Lessons from Day 1 workshop
   - Apples-to-apples metrics, absolute size metrics, trends
   - Using data visualization for analysis
     - Multi-metric relationships via data bars
     - Multi-metric relationships via scatterplots, bubble charts
     - Trends via sparklines
     - Spotting patterns using color scales

II. Q&A / Break (10:15am - 10:30am)

III. Using Elegant Data Visualization for Reporting (10:30am - 12:00nn)
     - When to use and how to create non-standard data visualizations
     - Reference lines to support your insight
     - Funnel Charts to show sequential steps and subsets
     - Tornado / Divergent Bar / Bi-Directional Bar Charts to show comparisons
     - Optional charts for advanced audiences
       - Burndown Charts to show usage of depleting resources
       - Bullet graphs to show targets vs. actuals

IV. Lunch (12:00nn - 1:00pm)

V. Workshop (1:00pm - 4:00pm)

VI. Group Work Submission Deadline (4:00pm - 4:15pm)

VII. Group Presentations, Feedback and Wrap Up (4:15pm - 5:00pm)
Advanced Visualization and Dashboard Design

Course duration: 2 Days
Laptop Specs:
- Windows 7/8/10 or MacOS El Capitan/Sierra.
- At least 4GB RAM.
- Minimum 2GB free disk space.
Required Software:
- Microsoft Excel 2013 or later.
- Tableau Public or Power BI

Take your visualization and dashboard skills to the next level

Advanced Visualization and Dashboard Design is aimed at the professional who already possesses fundamental data visualization and data storytelling skills. A natural continuation point from our Data Storytelling for Business and Excel Analytics Ninja courses, this course provides participants with the skills needed to produce stunning, understandable business dashboards and graphs. Taught using a variety of visualization tools including PowerBI and Tableau, the course covers the keys to designing for interactivity and drill down effects. The course also covers less commonly used but valuable visualization methods, including methods for visualizing networks and flows. Dashboard design is covered in detail, with participants creating a dashboard ‘makeover’ during the class practical workshop.

Suitable for

This course is suitable for any professional who wants to analyze and extract value from business data using sophisticated data visualization and interactive dashboards that convey insights with clarity.
COURSE OUTLINE - DAY 1

I. Introductions (9:00am - 9:15am)

II. Grammar of Graphics (9:15am - 9:30am)
   - Think like a graph
   - Look at bars, lines, and scatter plots from new perspective
   - Learn the intuition of visualization software

III. Visualizing Comparisons (9:15am - 9:30am)
   - Expand your visual vocabulary beyond bar charts
   - Compare more than one metric simultaneously
     - Trellis displays / small multiples
     - Scatterplots
     - Bubble charts

IV. Q&A/Break (10:15am - 10:30am)

V. Visualizing Comparisons (cont’d) (10:30am - 11:00am)
   - Expand your visual vocabulary beyond bar charts
   - Compare more than one metric simultaneously
     - Trellis displays / small multiples
     - Scatterplots
     - Bubble charts

VI. Visualizing Parts (11:00am - 11:20am)
   - Treemaps

VII. Visualizing Trends (11:20am - 12:00nn)
   - Calendar heatmap
   - Optional: seasonality plot

VIII. Lunch (12:00nn - 1:00pm)

IX. Workshop (1:00pm - 4:00pm)

X. Group Work Submission Deadline (4:00pm - 4:15pm)

XI. Group Presentations, Feedback and Wrap Up (4:15pm - 5:00pm)
COURSE OUTLINE - DAY 2

I. Intro: What is a Dashboard?  
   (9:00am - 9:30am)
   - Examples of Good vs. Bad Dashboards
   - Keys to Effective Dashboards: UX & Interactivity, Metrics, Visuals & Design

II. User Experience and Interactivity  
    (9:30am - 10:15pm)
    - Overview of Interactivity: tooltips, sorting, filtering, highlights, zoom, force
    - Hands-On: building interactivity in Tableau and Power BI
    - Tooltips and Visual Tooltips

III. Q&A / Break  
    (10:15am - 10:30am)

IV. User Experience and Interactivity (cont’d)  
    (10:30am - 11:00am)
    - Sorting
    - Filtering
    - Highlights
    - Overriding default filtering and highlight actions

V. Visuals and Design  
   (11:00am - 11:45am)
   - Layout and positioning
   - Focusing attention in dashboards
     - Size
     - Color
     - Big numbers
     - Human forms
   - The Bullet Graph

VI. Metrics  
    (11:45am - 12:00pm)
    - What is a good metric?
      - Action & Accountability
      - Context: via goals, via time period comparisons, via relatable units
      - Comprehensibility

VII. Lunch  
    (12:00pm - 1:00pm)

VIII. Workshop  
    (1:00pm - 4:00pm)

IX. Group Work Submission Deadline  
    (4:00pm - 4:15pm)

X. Group Presentations, Feedback and Wrap Up  
    (4:15pm - 5:00pm)
Need help?
Contact us today for enrollment inquiries.

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