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The Pathway for the utilization of Data Science in your Business

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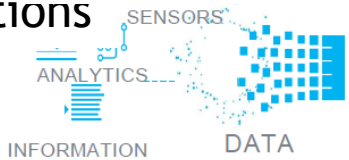
Businesses Undergoing Significant Change

Changing Customer Expectations

The Explosion of Data



Changing Risks

Transition in the Workforce

TECHNOLOGY AND LARGE VOLUMES OF DATA TRANSFORMING BUSINESS

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Drivers of Change – Data Science and AI

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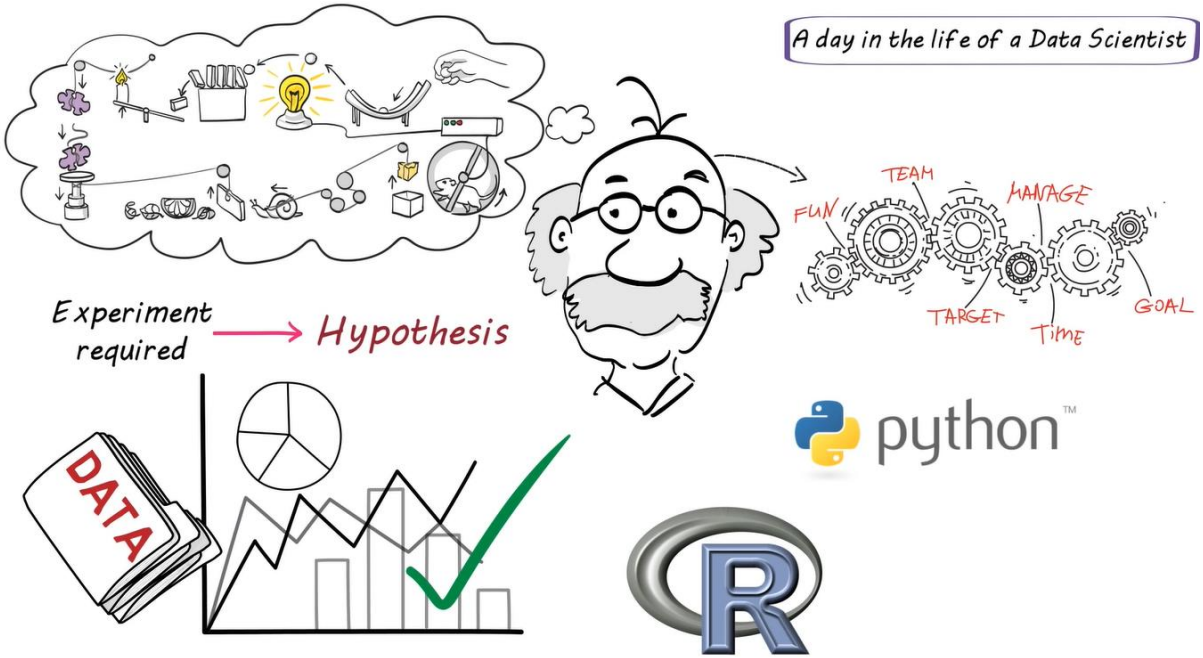
Data Science and Analytics – A necessity



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What is Data Science?

A Multi disciplinary subject - Simplified

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Data Science – Behind the Scene

UBER

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Data Science – Behind the Scene

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Actuaries produce the NAB Online Retail Sales Index

Insurance Industry Disruptions

Insurance data will grow

94%

84% of which is unstructured

"*By 2020, Internet of Things spending will rise to* ***$3 trillion***

and nearly ***30*** *billion devices*"

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More examples Data Science at Work

Cancer Research

Connected Vehicle

Price Optimisation

Network Optimization

Customer Interaction

Race Optimisation

Performance Predication

Traffic Analysis

Organisations looking to move from Descriptive to Cognitive Solutions

Cognitive
How can we learn dynamically?

Prescriptive
How can we achieve the best outcome?

Predictive
What could happen?

Descriptive
What has happen?

Learning Models
Experience Memory

Optimization Models
Recommendations

Predictive Models
Scores

Reports
Dashboards
Visualization

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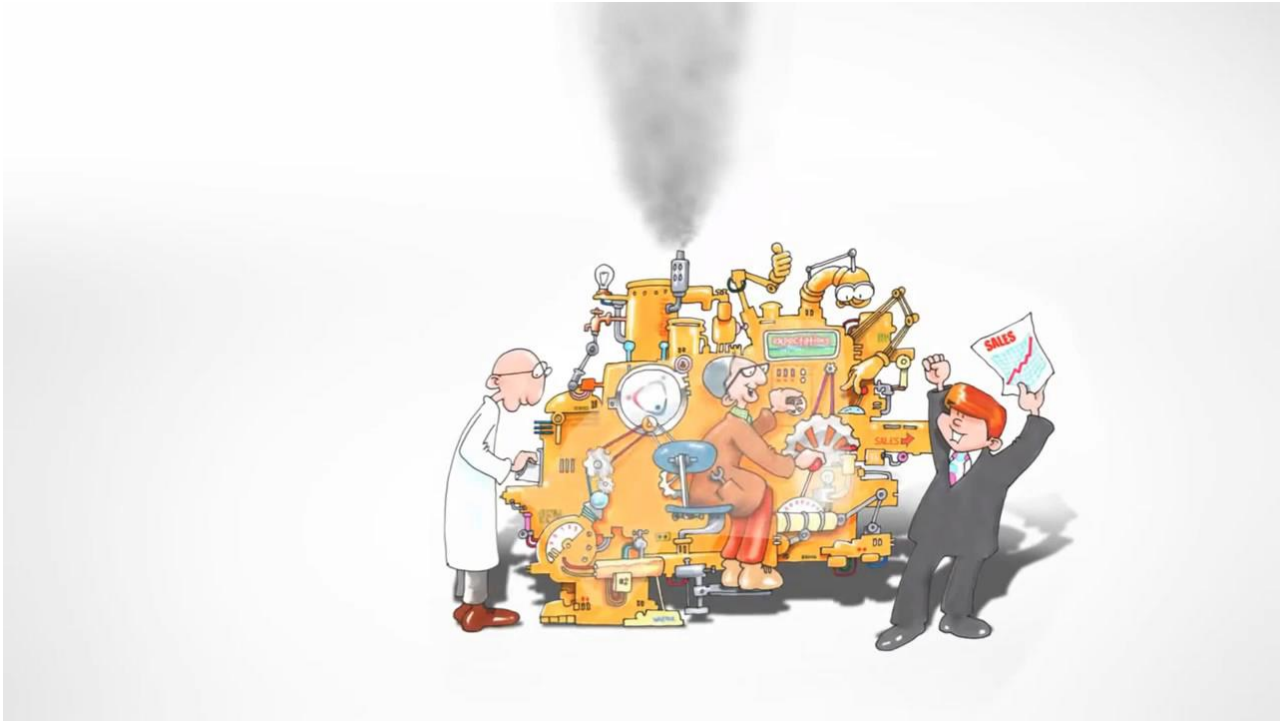
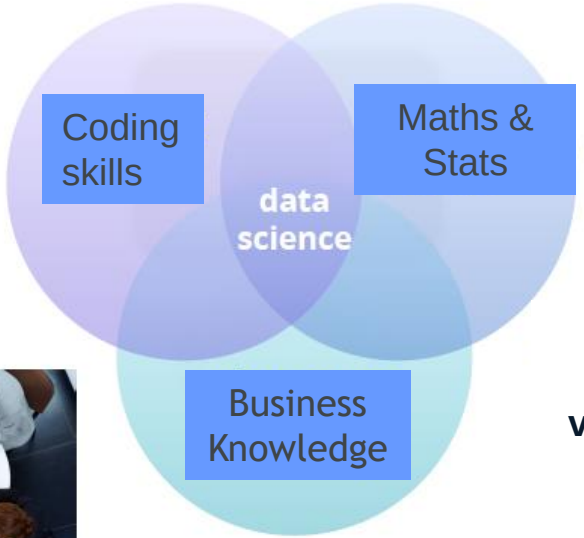
Businesses needs - Insights



Actuaries as Data Scientists – or perhaps *"Business Scientists"*

Programming & data manipulation



Understanding algorithms and validation framework

Business knowledge + company data

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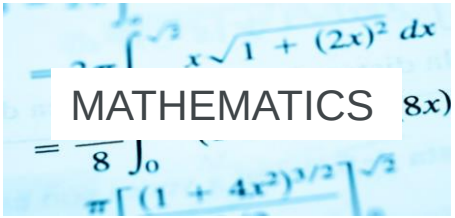
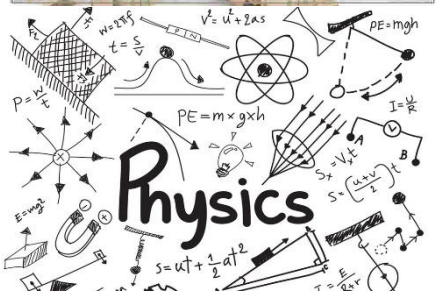
Actuarial Science

A Multidisciplinary Subject



MODELLING &
PROGRAMMING



ulty
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The Evolving Actuarial Profession - IFOA

- Curriculum change bringing it closer to Broader Data Science skillset
  - CT Series transformed to Core Business, Core Statistics and Core Modeling
  - R programming integral part of syllabus across all the Actuarial Associations

- Introduction of various roles for Actuaries besides Fellowship
  - Chartered Actuary (for Associates as Generalists)
  - Chartered Enterprise Risk Actuary (CERA- risk related roles)
  - Certified Actuarial Analysts (CAA – at entry level)

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Initiatives of the Actuarial Associations Worldwide

• International Actuarial Association	– Big Data Working Party
• Institute and Faculty of Actuaries	– Data Science Committee
• Institute of Actuaries of India	– Wider Area Working Party
• Actuarial Society of South Africa	– Business Intelligence forum
• Canadian Institute of Actuaries	– Predictive Modeling forum
• Casualty Actuarial Society	– New Qualification CSPA
• Institute of Actuaries of France	– Big Data Committee

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What should students do

- Focus on Clearing papers
- Young and fresh candidates should explore new domains
- Apply for jobs in non traditional areas
- Volunteer
- Learn complementary and new skills

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The Road Ahead

- Data Science, Artificial Intelligence, Machine Learning, Internet of things and Social Media represents a major opportunity for the actuarial profession
- Actuaries and aspiring actuaries should explore and venture into newer fields
- Co-operation between different actuarial associations will enable the profession to make the most of the opportunity ***otherwise we may become marginalized***

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