"Through analytics, we derive game-changing insights from data. This facilitates decision-making and enhances business competitiveness."

[Quote from Dr Loke Chok Kang, Principal Analyst (HR Intelligence), Strategic Planning & Research, Public Service Division, Prime Minister’s Office]

"I leverage healthcare datasets with advanced analytics, machine learning, and mathematical modeling techniques to transform our understanding of patients, treatments and healthcare outcomes. This enables us to deliver the right drug to patients at the right price."

[Ivan John Clement, Consultant Data Scientist, IQVIA, B.Sc. (Hons) in Computational Biology (2013); M.Sc. in Management of Health Industries (2015), ESSEC Business School]

"Through Big Data analysis technologies, we provide reliable weather forecasts that ensure the safety of our clients’ offshore marine operations." - Arnold Doray, Chief Executive Officer, Terra Weather - B.Sc. in Physics (1994); Master of Technology in Knowledge Engineering (2002)

"We empower small and medium businesses by providing tailor-made insights and artificially intelligent analytics tools." - Sriram Rangarajan, Founder, HappyData Pte Ltd - B.Sc. (Hons) in Chemistry (2009)

"We provide industry-leading data analytics cloud solutions uniquely designed for Asian businesses. This addresses an emerging market need." - Chan Kailin, Co-Founder, AlfaCloud HK - B.Appl.Sc. in Computational Finance (2004)

[Quote from Rayakar Achal Ajeet]

"The course covers a wide range of skills that are relevant in the rapidly evolving economy of the future such as statistical analysis, programming and creative problem solving." - Guai Zi Wei

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Now known as Quantitative Finance programme
The nature of data has changed dramatically. Between the dawn of civilisation and 2003, the human race created five exabytes (5 x 10^18 bytes) of information. Now we are producing that amount every two days. Such a huge amount of data, collectively called Big Data, creates an urgent need to make sense of it.

“Data is the ‘new oil’ of the 21st century. With better connectivity and more powerful computational technologies, data analytics enables businesses to draw sharper insights and emerge in future. It can make businesses smarter, more productive and more competitive, thereby powering economic growth.”

First Data Science and Analytics Degree Programme in Singapore

The Data Science and Analytics programme offered by the Department of Mathematics and the Department of Statistics and Applied Probability in the Faculty of Science, in conjunction with the Department of Computer Science in the School of Computing, is the first in Singapore.

This four-year direct Honours programme is designed to equip graduates with the ability to develop novel analytical tools for new scientific applications and industry problems that will emerge in future.

• Multidisciplinary curriculum. A key facet is the interdisciplinary nature of the programme. You will read modules in Mathematics, Statistics and Computer Science, and be exposed to the interplay among these three key areas in the context of data science.

• Deep domain knowledge. In the third and fourth years of study, you will gain in-depth exposure to computation and optimisation, computer algorithms, database and data processing, data mining and machine learning and high-dimensional statistics.

• Experiential learning. You will undertake a 40-week industrial placement, where you will have the opportunity to work on research and projects that are relevant to real-life data and workplace challenges.

• Global exposure. You can participate in a range of study abroad and student exchange programmes at over 300 partner universities. This opens the door to a global learning experience, grooming you to be resilient and culturally sensitive.

• Workplace experience. You can choose to take the Co-operative Education pathway, which allows you to spend up to five semesters / terms at the workplace with reputable employers. This will equip you with the skills, knowledge and expertise that enhance your employability after graduation.

Admission Requirements
Applicants should have a very good pass in either H2 Mathematics or H2 Further Mathematics, and a good pass in H2 Biology or H2 Chemistry or H2 Physics or H2 Computing.

Varied Career Prospects
Based on the IMDA/Infocomm Manpower Survey 2015, the total demand for data analytics professionals was about 1,200. An additional 2,250 specialists will be needed by 2018, as skill expectations remain strong for infocomm professionals, with the demand expected to grow by about 53,000 (21.5%) by 2025. Graduates of this programme will have career opportunities as data science professionals in the public sector which includes Smart Nation work, as well as in diverse industries where there is growing need for extensive data collection, processing and analyses. These include biomedical sciences, clean technology, consumer businesses, data science and analytics, e-commerce, finance, healthcare, infocommunications, manufacturing, marketing, retail, insurance, safety and security, technology, telecommunications, transportation etc.

Career Options

• Audience insights analyst
• Big data analyst
• Big data engineer
• Big data engineer specialist
• Credit risk modelling analyst
• Cyber security specialist
• Cyber security technologist
• Data scientist
• Data analytics specialist
• Data visualisation developer
• Financial analytics specialist
• Human capital analytics specialist
• Machine learning scientist
• Market research analyst
• Statistician

“Data and analytics will be critical to what GovTech hopes to achieve in building a Smart Nation and transforming digital government.”

Launch of Infocomm Media 2025, 11 August 2015

“Data allows Singapore to transcend our intrinsic limitations of geography and resources. Digitalisation offers businesses an effective means to reach out to global markets.”

- Chan Chun Sing, Minister, Prime Minister’s Office and Co-Chief, Subcommittee on Future Connectivity, Launch of Conference on the Future Economy Report, 9 February 2017