Our Graduates

Some of our graduates have established successful careers in data science-related fields.

DATA SCIENCE ANALYTICS

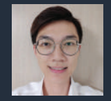
"I provide data-driven solutions for clients across the Asia Pacific in diverse industries. I blend the art and science of analytics to 'connect the dots' between People, Products and Profits."
- Dr Eric Sandosham, Founder-Partner, Red & White Consulting Partners LLP - B.Sc. (Hons) in Mathematics (1995); M.Sc. in Statistics (2002); Ph.D. in Business (General Management) (2017), Singapore Management University

"My team leverages data analytics solutions to enhance the customer experience and facilitate partner growth. This contributes to NTUC's digital transformation." *- Dr Zhao Jingyuan, Director, NTUC Link Analytics Centre - Ph.D. in Statistics (2008)*

"I utilise advanced analytics and machine learning to analyse healthcare datasets, which transform our understanding of patients, treatments and healthcare outcomes. This enables us to deliver the right drugs 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 data analytics, we provide reliable weather forecasts that ensure the safety of our clients' offshore marine operations anywhere around the world." *- Arnold Doray, Chief Executive Officer, Terra Weather - B.Sc. in Physics (1994); Master of Technology in Knowledge Engineering (2002)*

"I provide statistical analysis and valuation advice to create business value and improve the performance of clients' actuarial portfolios."
- Liu Jiang, Senior Actuarial Consultant, Deloitte Southeast Asia - B.Sc. (Hons) in Applied Mathematics and Statistics (2011); M.Sc. in Quantitative Finance (2014)



"I compute risks of different credit products, to identify high-risk segments and retail loan performance for consumers and Small and Medium enterprises." *- Tan Zhang-You, Credit Risk Analyst, Maybank Singapore - B.Sc. (Hons) in Statistics (2017)*

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Our Students

Students share their learning outcomes from the programme.

"Students have the flexibility to pursue their area of interest in data science, while gaining a strong foundation in core areas such as statistics and computing." - *Viknesh S/O Jaya Kumar*

"The course taught me how to crunch data to obtain valuable insights, visualise data and communicate my findings to non-specialist audiences." - *Khairiyah Bte Mohamed Ridhwan*

More Information

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BACHELOR *of* SCIENCE *in*

DATA SCIENCE AND ANALYTICS

NUS National University of Singapore | Faculty of Science

BACHELOR OF SCIENCE IN DATA SCIENCE AND ANALYTICS

Preparing Future Leaders in Data Science and Analytics

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 science is an emerging field that involves computational principles, methods and systems for extracting and structuring knowledge from data. On a daily basis, large datasets are generated by activities in the sciences, society and commerce. Data scientists are constantly seeking patterns and predicting outcomes from these vast collections of data.

Infocomm Media 2025, MCI[1]

"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 into their customers and operations. It can make businesses smarter, more productive and more competitive, thereby powering economic growth."

[1] *Ministry of Communications and Information*

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 with sufficient technical depth 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 practice of data science.
- **Deep domain knowledge.** In the third and fourth years of study, you will gain in-depth exposure to Artificial Intelligence, computation and optimisation, computer algorithms, database and data processing, data mining and machine learning and high-dimensional statistics.
- **Experiential learning.** You will undertake a capstone module that is industry-driven, where you will have the opportunity to work on research and projects that are related 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.

Co-operative Education Pathway

	Semester 1	Semester 2	Semester 3 and 4 (Special Terms)
Year 1	Study	Study	Study
Year 2	Study	Study	Internship
Year 3	Study and Internship	Internship	Internship
Year 4	Study and Internship	Study	Graduate

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

Critical emerging technology specialist roles include data scientists and Artificial Intelligence/Machine Learning engineers. As at June 2018, 16,400 professionals were employed in such roles and an additional 1,800 roles remained vacant. Enterprises project the demand to grow by another 9,300 in the next three years (2019 – 2021).[2]

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, re/insurance, safety and security, technology, telecommunications, transportation etc.

[2] *Source: Infocomm Media Manpower Survey (2019), Infocomm Media Development Authority (IMDA)*

"We aim to be one of the world's leading Smart Nations. To realise our vision, we are building strong capabilities to tap on opportunities in the Digital Economy - leveraging frontier technologies like Artificial Intelligence and harnessing data as the building block of the Digital Economy....We want to encourage data sharing among businesses to solve common problems, drive innovation and unlock the value of complex datasets."
- S Iswaran, Minister for Communications and Information, Innovfest Unbound 2018, 5 June 2018

"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 for Trade and Industry and Co-Chair, Subcommittee on Future of Connectivity, Launch of Committee on the Future Economy Report, 9 February 2017*

EXCITING JOB OPPORTUNITIES

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