

College of Humanities and Sciences



## Bachelor of Science (Honours) in Data Science and Analytics

Jointly offered by the Department of Statistics and Data Science and the Department of Mathematics Faculty of Science College of Humanities and Sciences



# NUS Data Science and Analytics

Each day, we create around 2,500 petabytes of data – about ten billion ten-minute videos, fifty million months' worth of a 50-gigabyte data plan, and 2.5 million one-terabyte hard drives. No wonder it's called a data explosion. Left alone, it's simply data that takes up a lot of space. But in the hands of data scientists, big data can make a difference: fight crime, improve healthcare, optimise business performance, create smart cities....

In the NUS Data Science and Analytics programme, we teach you the analytical tools and methods underpinning data science – from domains of mathematics, statistics and computer science<sup>\*</sup>. You will also delve into analytics technologies such as computer algorithms, database, and data processing, and analytics methods such as artificial intelligence, data mining and machine learning, and high-dimensional statistics.

#### If that's not enough – as part of the **College of Humanities and Sciences (CHS)**, you

have the flexibility of picking any minor or second major offered by the Faculty of Science and Faculty of Arts and Social Sciences (and beyond). Coupled with the foundational Common Curriculum, you will be ready to make a difference as a data science professional by the time you graduate.

The Data Science and Analytics programme is jointly offered by the Department of Statistics and Data Science and the Department of Mathematics, in conjunction with the Department of Computer Science.

# Why NUS Data Science and Analytics?



### **Interdisciplinary focus**

The NUS Data Science and Analytics programme is the **first of its kind in Singapore**, bringing together the expertise and resources of three departments – integrating mathematics, statistics and computer science for a comprehensive understanding of data science.



#### **Experiential learning**

Try your hand at solving industry problems at the **Data Analytics and Consulting Centre**, or take up multiple internships with the **Co-operative Education Programme**. Add to that, how does working on realworld challenges and projects in your **Capstone Course** sound?



#### **Technical depth**

We equip you with the analytical methods and techniques to **solve complex data-scientific problems** – and **create novel tools** of your own. Even better, you will be trained to **communicate findings and insights clearly** using the appropriate visualisation tools.



#### **Career opportunities**

With their ability to transform raw data into actionable insights, the **demand for data scientists is high across industries**. This includes consumer businesses, financial services, healthcare, manufacturing, pharmaceuticals and public service (e.g. Smart Nation), amongst others.



# Academic Programmes



#### **Primary Major** in Data Science and Analytics

- Specialisation in
- Operations Research
- Statistical Methodology

**Second Major** in Data Analytics

# Research Opportunities

Explore areas of your interest with a **Capstone Course**, **Final Year Project** or participate in the **Undergraduate Research Opportunities Programme in Science (UROPS)**.

Our research areas include:

- causal inference
- computational biology
- data mining
- high dimensional data analysis



Minor in Data Analytics



"The statistical concepts and practical coding experience picked up from courses and internships have enabled me to generate data-driven insights, which help to drive better investment decisions."

 - Celine Lim, Associate, GIC Professionals Programme BSc (Hons) in Data Science and Analytics (2021) "Working in an industry which strives to improve user experience, I am able to apply what I learnt in NUS to support experimentation analysis and help decide features rolled out in our superapp."

> - Evelyn Tan, Data Scientist (Analytics), Grab BSc (Hons) in Data Science and Analytics (2021)

# Admission Requirements

Programme	Admission Requirements
Primary Major in Data Science and Analytics	A very good H2 pass (or equivalent) in Mathematics/Further Mathematics
Primary Major in Data Science and Analytics with	
<ul> <li>Specialisation in Operations Research</li> </ul>	
<ul> <li>Specialisation in Statistical Methodology</li> </ul>	
Second Major in Data Analytics	
Minor in Data Analytics	A good H1 pass (or equivalent) in Mathematics

For applicants without H2 Mathematics/Further Mathematics, simply read the bridging course MA1301/MA1301X Introductory Mathematics. (Only applicable for Primary Major and Second Major in Data Analytics)

#### Department of Statistics and Data Science

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