Today, we face a massive explosion in the amount of data generated and retained by organisations, the government, and even individuals like you and me. In this age of “big data”, the ability to analyse and process data has become a critical skill set – data scientists make sense out of all this data and use it to make good business decisions.

The MSc in Data Science and Machine Learning is an interdisciplinary graduate degree programme. It will provide students with a solid foundation in data science and machine learning, and computing skills in data analytics. This is achieved by integrating statistics, mathematics and computing, as well as machine learning and AI.

The programme offers upgrading opportunities for those who wish to equip themselves with data science and machine learning knowledge and data analytic skills. It will also help to meet the growing demands for a big data workforce in all industries by transforming graduates in quantitative science into data science and analytics practitioners.

I look forward to seeing you in the programme.

PROFESSOR ZHANG LOUXIN
ACADEMIC DIRECTOR,
NUS MSC IN DATA SCIENCE AND MACHINE LEARNING

ADMISSIONS CRITERIA

Admissions Criteria

- Bachelor (Honours) degree or a 4-year Bachelor’s degree in quantitative science (mathematics, applied mathematics, computational mathematics, statistics and physics) or engineering
- A candidate whose medium of undergraduate instruction is not English must pass TOEFL (with a minimum score of 560 for the paper-based test or 85 for the internet-based test with at least 22 for the writing component) or IELTS (with a minimum score of 6.0)

Graduation Requirements

- Read and pass five core modules
- Read and pass five elective modules (level 4000 modules capped at two)
- Obtain a Cumulative Average Point (CAP) of 3.00 or above

Candidature

- Full-time basis: 12 to 24 months

For more information, please contact us at: pgc@nus.edu.sg
In the future economy that is heavily reliant and driven by the adoption of new technologies and big data, you will be well-poised to harness the power of data to solve problems and deliver meaningful outcomes for your organization.

Learn from the best of academia and industry

The NUS MSc in Data Science and Machine Learning is supported by leading NUS researchers in data science as well as data scientists from industry.

A robust, interdisciplinary curriculum

The curriculum incorporates interdisciplinary learning from fields such as computer science, mathematics and statistics, as well as data analytics and machine learning.

FLEXIBLE PROGRAMME STRUCTURE

Complete at least five elective modules from two or more Graduate Certificate tracks/clusters listed below:

Why the NUS MSc in Data Science and Machine Learning?

Choose from multiple specialisations

The programme offers multiple data science specialisations, and is jointly offered by the Faculty of Science’s Department of Mathematics and Department of Statistics and Applied Probability, the School of Computing’s Department of Computer Science, with participation from the Faculty of Engineering and the Saw Swee Hock School of Public Health.

Core Modules 20 MCs

- DSA4101 Introduction to Big Data for Industry
- DSA4112 Optimisation for Large-Scale Data Driven Inference
- DSA4102 Foundations of Machine Learning (or CS5559 Theory and Algorithms for Machine Learning)
- CS5534 Cloud Computing
- DSA5101 DSML Industry Consulting and Applications Project

Elective Modules 20 MCs

- DSA5202 Advanced Topics in Machine Learning
- DSA5204 Deep Learning and Applications (or CS5559 Neural Networks and Deep Learning)
- EE5127 Statistical Pattern Recognition
- ST5225 Statistical Analysis of Networks

GC in Data Science for Internet of Things
- EE5203 Cyber Security for Internet of Things
- EE5204 Sensor Networks
- EE5205 Intellectual Property: Innovations in IoT
- ST5227 Statistical Pattern Recognition
- ST5225 Statistical Analysis of Networks

GC in Data Science for Healthcare
- SPH5103 Healthcare analytics
- MA5212 Health Analytics
- MA5216 Optimization
- ST5227 Nonparametric Regression
- ST5210 Multivariate Data Analysis
- MA5210 Nonparametric Regression
- MA5211 Multivariate Data Analysis

Cluster in Computing
- CS5449 Natural Language Processing
- CS5419 Combinatorial and Graph Algorithms
- CS5449 Text Mining
- CS5439 Big Data Systems for Data Science
- CS5439 Data-driven Decision Making

Cluster in Mathematics
- MA4230 Matrix Computation
- MA5232 Modeling and Simulations
- MA5216 Optimization
- MA5224 Statistical Analysis of Networks

Cluster in Statistics
- ST5207 Nonparametric Regression
- ST5210 Multivariate Data Analysis

Cluster in Computer Vision
- CS4248 Computer Vision and Pattern Recognition
- CS5201 Theoretical Foundation of Multimedia
- DSA5203 Visual Data Processing and Interpretation
- CS4243 Computer Vision and Pattern Recognition
- CS5240 Theoretical Foundation of Multimedia

Cluster in Data Science for Healthcare
- SPH5101 Big Data and Healthcare Analytics
- SPH5102 Applied Data Mining
- ST5207 Applied Data Mining
- ST5201 Applied Data Mining
- ST5208 Applied Data Mining

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Core Modules 20 MCs

Read and pass the following five core modules:

Elective Modules 20 MCs