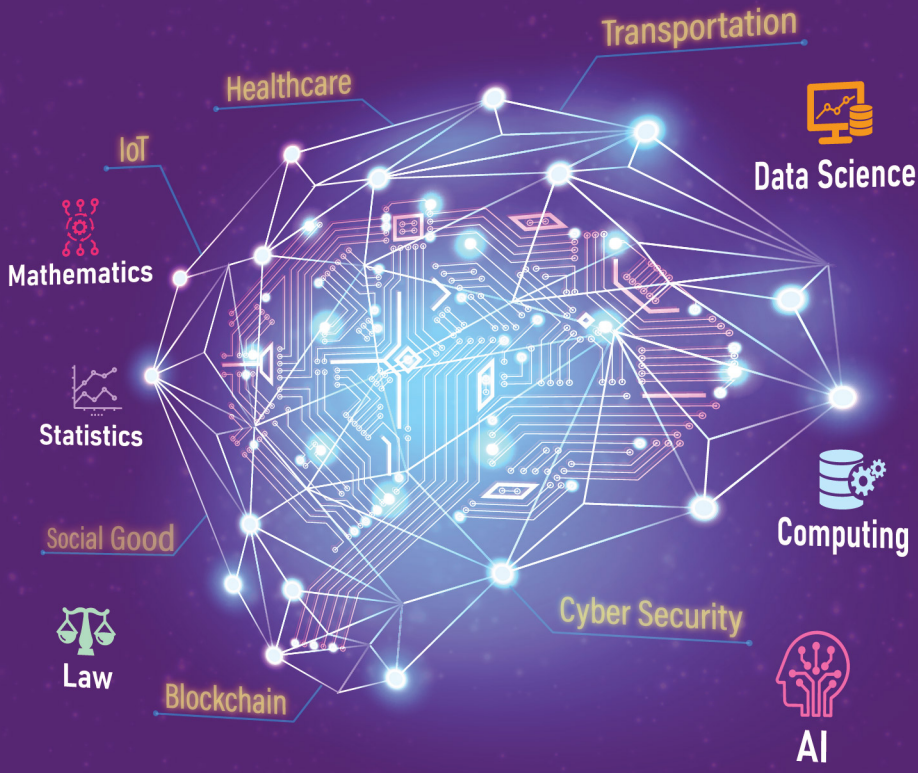


BEng(DS&E)

Bachelor of Engineering in Data Science and Engineering

工學學士(數據科學及工程)

JUPAS Code: 6262

THE UNIVERSITY OF HONG KONG
DEPARTMENT OF COMPUTER SCIENCE

Enquiries: (852) 2859 2180 Email: enquiry@cs.hku.hk

How Cambridge Analytica exploited Facebook users' data to influence social behaviour?

What have Instagram data scientists and engineers been working behind the scenes to power the Instagram Explore recommendations?

About the Programme

Fast emerging data science and engineering technologies such as data analytics, artificial intelligence, and big data infrastructure boost the transformative impact of big data on businesses, industries and society.

The BEng(DS&E) programme is a professional degree in Data Science and Engineering offered by the Department of Computer Science at the University of Hong Kong, with support from the Department of Statistics and Actuarial Science, Department of Mathematics, and Faculty of Law. It provides a solid foundation for students pursuing career and research in the data science and data engineering discipline.

The curriculum is built upon a fine combination of foundation courses in data science, computing, mathematics, statistics, and law, and is designed to provide students with advanced training in both theory and practice in Data Science and Engineering. It is also unique in its emphasis on data privacy, ethical and legal issues for the data science profession, and privacy-preserving techniques. Students may also pursue a minor in a data-intensive field, thus bridging domain-specific knowledge with data science and engineering skills.

This programme offers graduates new and exciting career choices in the fastest-growing job positions like data engineer/architect, data scientist, data analyst, machine learning engineer, big data engineer, business analyst, and information security analyst.

Programme Features

- **Privacy-awareness:** Students will be equipped with data security knowledge, in connection with the protection of data privacy.
- **Data-centric techniques:** Various analysis techniques for different types of data (e.g., imaging data, IoT data, and diverse data obtained from Internet of Everything (IoE)) will be introduced.
- **Domain-specific minors and capstone experience:** We provide an option for students to take a minor in a specific domain, e.g., GIS in Geography, BIM in architecture, and biomedical data analysis. Students will demonstrate their data science skills and how data science can benefit a selected domain through the capstone project.

Comprehensive Foundations
Computer Science, Statistics, Engineering, Law

Advanced Studies

- Data mining
- Machine learning & Artificial intelligence
- Big data systems
- Advanced statistics
- Visual analytics & visualization
- Cyber security
- Data-driven technologies & applications

Capstone Experience

- Data science in practice
- Domain-specific application project / Technology project

DS&E Application Domain

An option to pursue a minor in a specific domain for the application of data science and engineering; e.g., business, engineering, science, social science, architecture, urban planning and education

Course Highlights

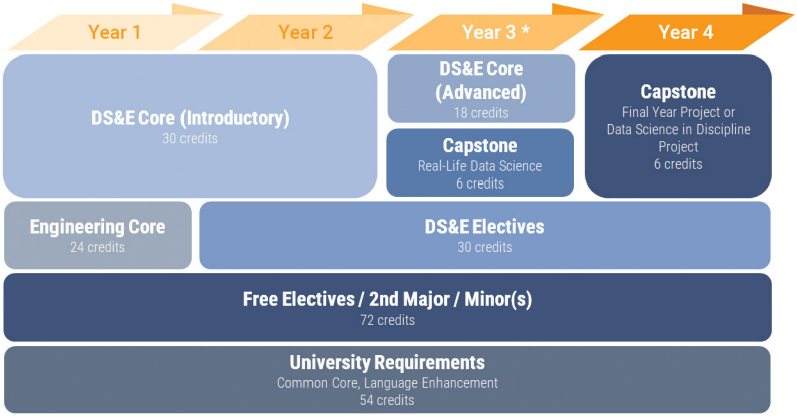
Cores

- Introduction to Data Science and Engineering
- Machine Learning
- Ethics and Law in Data Science
- Real-Life Data Science

Electives

- Artificial Intelligence
- Applied Deep Learning
- Cyber Security
- Visualization for Data Analytics
- Data Analytics for IoT
- Big Data Systems

Curriculum Map



** Internship during summer*

Admission Requirements

JUPAS route:

English Language – Level 3 or above
Chinese Language – Level 3 or above
Mathematics (core) – Level 3 or above
Liberal Studies / Citizenship and Social Development - Level 2 or above / Attained
Mathematics Extended Part (Module 1 or 2) – Level 3 or above
One Elective Subject – Level 3 or above

Non-JUPAS Route:

Applicants with other local / international / national qualifications (e.g., IB, GCE-AL, SAT/AP, NJCEE) will be considered on an individual merit basis. More details are available from the programme website at https://datasce.cs.hku.hk/index.php/admissions/non-jupas/.

Career Prospects

This programme aims to nurture professionals who are equipped with core knowledge and technologies in data science and practical training in data engineering, and are capable and passionate in driving different disciplines to excel in the era of big data.

The programme offers graduates new and exciting career choices in the fastest-growing job positions like data engineer/architect, data scientist, data analyst, machine learning engineer, big data engineer, business analyst, and information security analyst.