

# COLLEGE OF COMPUTING

College of Computing aims to excel in computer science, data science and statistics, fostering collaborative research to develop advanced analytical tools and AI solutions for global challenges.

We also strive to nurture a diverse international community, equipping students with the skills and mindset to drive impactful change across industries.

## >> Our Vision

To be a global leader in nurturing the next generation of technology innovators, scholars and pioneers, primed to shape the future in the new era of data-driven computing empowered by artificial intelligence.

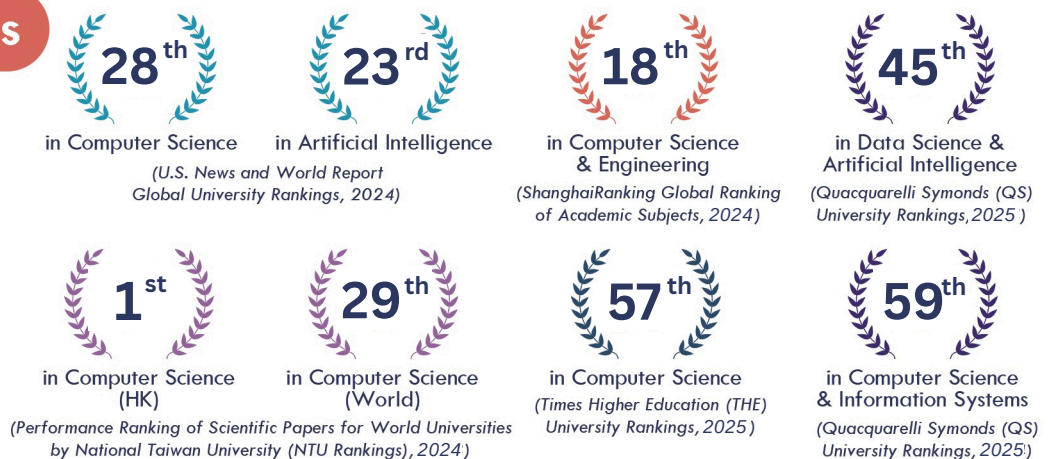
## >> Our Mission

- To serve as a centre of excellence in the integrated study of computer science, data science, and statistics, harnessing the synergies among these disciplines to conduct cutting-edge, collaborative research that develops advanced analytical tools and AI-powered solutions to tackle complex global challenges.
- To nurture a diverse community of international learners, equipping them with the technical expertise, analytical skills, and interdisciplinary mindset needed to drive impactful change in various industries and sectors.

## >> Academic Units

- Department of Biostatistics
- Department of Computer Science
- Department of Data Science

## >> Our Rankings



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# Undergraduate Programmes

## Department of Computer Science

### » JS1204 BSc Computer Science

(Streams: Artificial Intelligence / Cybersecurity / Data Science / Multimedia Computing / Software engineering and Project Management)

The BSc in Computer Science programme offered by the Department of Computer Science is one of the leading Computer Science programmes in Hong Kong, providing students with a well-balanced curriculum and solid education in both the theoretical and practical aspects of computing. This foundation enables students to lead successful careers as professional software developers, system architects, system analysts and technology officers. Besides acquiring a broad knowledge of Computer Science, students may elect to specialise in technology streams such as artificial intelligence, cybersecurity, data science, multimedia and software engineering/project management. In addition, our 9-month mandatory IT Professional Internship provides students with the opportunity to put their learning and skills into practice and to gain valuable real-world work experience, thus giving them a head start in their careers.

### » JS1218 BSc Cybersecurity

(Features: System Security / Software Security / Cryptography / Privacy-Enhancing Technologies / Cyber Risk Management)

The rapid and unprecedented evolution of the digital landscape is being driven by transformative technologies like AI, Big Data, and FinTech, revolutionizing industries across the globe. Nevertheless, these advancements introduce novel vulnerabilities and threats, underscoring the critical imperative for cybersecurity professionals. The pervasive shortage of skilled cybersecurity experts continues to persist within numerous businesses worldwide, resulting in a substantial and escalating demand for qualified cybersecurity professionals.

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## Department of Data Science

### » JS1070 Data Empowerment:

Learn, Transform and Achieve (DELTA)  
(Features: Free Choice of Major / One-to-One Advisor / Elite Work Placement / Executive Mentor Scheme / Premium Overseas Exchange / Internship Exchange)

The DELTA Programme at City University of Hong Kong stands at the forefront of data science education. Designed to harness the transformative power of data, this programme empowers students to master both the theories and applications of data science. Participants will gain profound insights into this dynamic field, enabling them to revolutionize diverse industries and achieve unprecedented outcomes through the synergistic use of data and technology.



### » JS1071 Data Science

(Majors: BSc Data Science / BSc Data and Systems Engineering)  
(Features: Data Science / Machine Learning / Data Mining / Big Data Analysis)

The BSc Data Science and BSc Data and Systems Engineering majors are designed to cultivate data science professionals capable of applying and creating the data science knowledge required to support social and economic development in Hong Kong and beyond. Data science, as a rapidly growing field, focuses on solving problems and furthering social progress using vast amounts of data collected in various industries, commerce and applied sciences. A data science professional is trained to use and extract insights from these data, apply to and solve real-world problems in the data realm responsibly.

BSc Data Science cultivates data scientists and data science professionals with rigorous theoretical and methodological knowledge of data science along with in-depth analysis and evaluation for applied problems.

BSc Data and Systems Engineering cultivates data scientists and advanced data engineers with a solid understanding of the tools and techniques, with a focus on managing data and applying data science techniques to solve social, business and industrial problems.

Students of JS1071 will have a free choice of majors (BSc Data Science or BSc Data and Systems Engineering) after one year of study.

### » JS1072 BSc Data Science

(Features: Data Science / Machine Learning / Data Mining / Big Data Analysis)

The BSc Data Science aims to provide data science graduates with essential training in the quantitative methods, statistical analysis techniques, data mining technology and computing tools required for the effective use and analysis of big and complex data for real-world applications that involve making sense of complex data to realize planning and decision making. The programme develops strong and interdisciplinary training in the ability to build data analysis reasoning, communication skills and ethic awareness in realistic inter-professional settings for commercial or public policy problems in various disciplines.

The programme provides three flexible modules of advanced knowledge:

1. Artificial Intelligence
2. Social Media Analytics
3. Statistical Learning

### » JS1074 BSc Data and Systems Engineering

(Features: Data Science / FinTech / Industrial AI / Smart City / Internet of Things)

Offering a solid foundation in data science and intelligent systems, the BSc Data and Systems Engineering programme equips students with strong analytical and decision-making skills, enabling them to analyse, manage and improve enterprise-class systems. The enterprises considered may be businesses, governmental institutions or service-oriented engineering organisations. Main data science application subjects in this program covers data-driven financial technologies, smart city, artificial intelligence, and industrial internet of things.

BSc Data and Systems Engineering students are nurtured to become analytically minded and versatile graduates capable of collecting, analysing and interpreting big data. With such skills, they are proficient at transforming vast amounts of information into actionable insights, enhancing decision-making in their respective organisations.

The programme provides four flexible categories of advanced knowledge:

- |               |                             |
|---------------|-----------------------------|
| a) FinTech    | b) Industrial AI            |
| c) Smart City | d) Internet of Things (IoT) |



# Double Degree Programme

## JS1221 BSc Computer Science and BSc Computational Finance and Financial Technology

*(Double Degree; Features: Corporate Accounting and Economics / Computational Finance / Advanced Statistics / Financial Technologies)*

### Leveraging Technology in Finance to Transform and Go Beyond

Jointly offered by the Department of Computer Science and the College of Business, the programme aims to educate a new generation of professionals with a unique combination of expertise from the important areas of computer science, computational finance, and financial technology. Finance is one of the pillars supporting the economy of Hong Kong, and the use of computational technologies has become pervasive in different business sectors. With recent significant advances in artificial intelligence (AI) and blockchain technologies and their increasing applications in every aspect of the financial industry, the new programme, which comprises a broad set of courses from the Department of Computer Science and College of Business, will train students with a distinctive and interdisciplinary blend of knowledge across the complete spectrum of computer science / computational finance / financial technology areas, from AI, big data analytics, derivatives pricing, financial econometrics, portfolio management to software engineering.

### Career Prospects

The interdisciplinary nature of the programme allows students to enter traditional financial careers, and simultaneously equip students with finance domain knowledge and technology background for opportunities in the emerging fintech industry. Employment opportunities available for graduates include:

- Quantitative / Finance / Business Analyst
- Cybersecurity Analyst
- Artificial Intelligence & Machine Learning Specialist
- Data Scientist
- Risk & Compliance Specialist
- Blockchain Developer

After a few years in the field, graduates can take up a specialist role in any one of the above careers or switch among them. Management role, product/service director and entrepreneurship are advanced available options.



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