

# 6999 Computing and Data Science

**Bachelor of Engineering in Computer Science  
[BEng(CompSc)]**

**Bachelor of Engineering in Artificial Intelligence  
and Data Science [BEng(AI&DataSc)]**

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HKU Information Day 2024  
26 October 2024



SCHOOL OF  
**COMPUTING &  
DATA SCIENCE**  
The University of Hong Kong



# About School of Computing & Data Science (CDS)

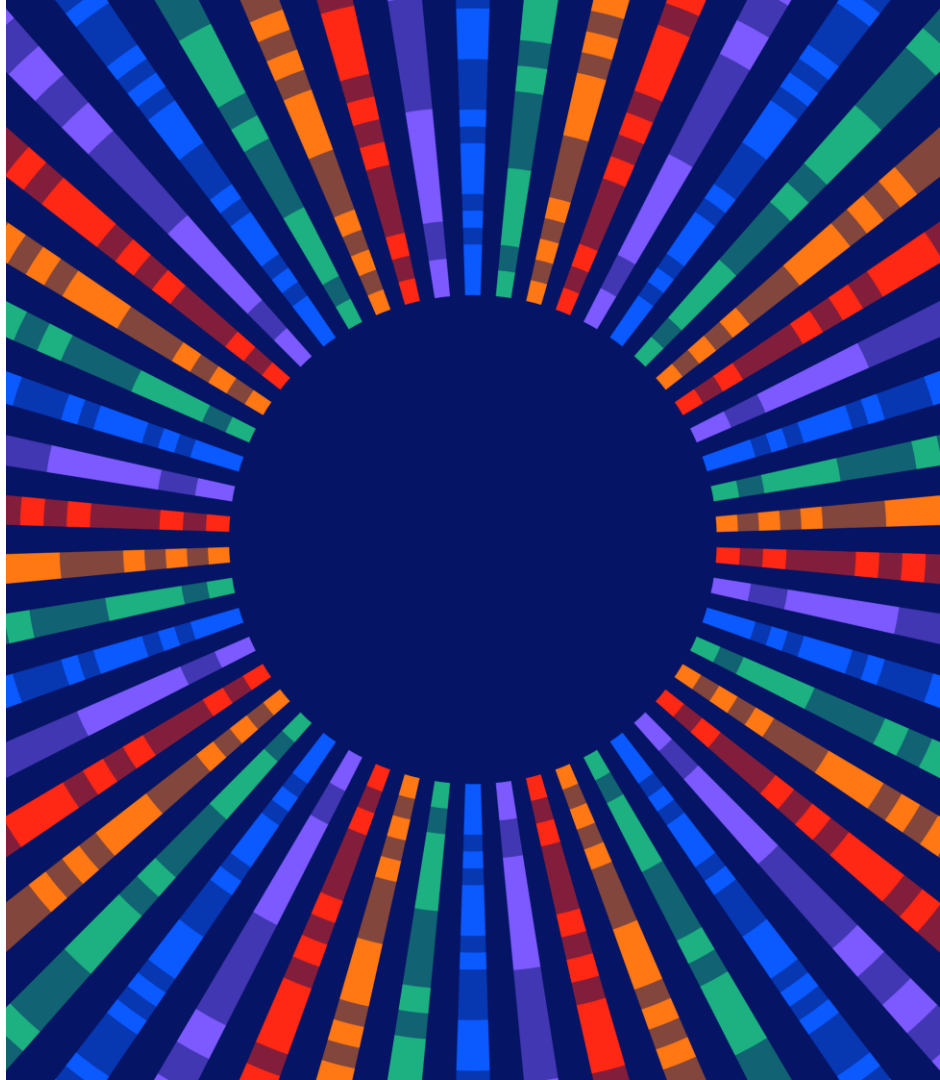
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*Empowering Changemakers of the Future*

- Newly established school at The University of Hong Kong
- Encompasses the Department of Computer Science and the Department of Statistics and Actuarial Science
- Aims to foster innovation, collaboration, and excellence in the vital fields of
  - Computing
  - Statistical Sciences
  - Data Science
  - Artificial Intelligence



The University of Hong Kong  
School of Computing & Data Science



# International rankings of HKU



#2

in Asia (2024)

#17

in the world (2025)

#25

Data Science and Artificial Intelligence  
(2024)



#6

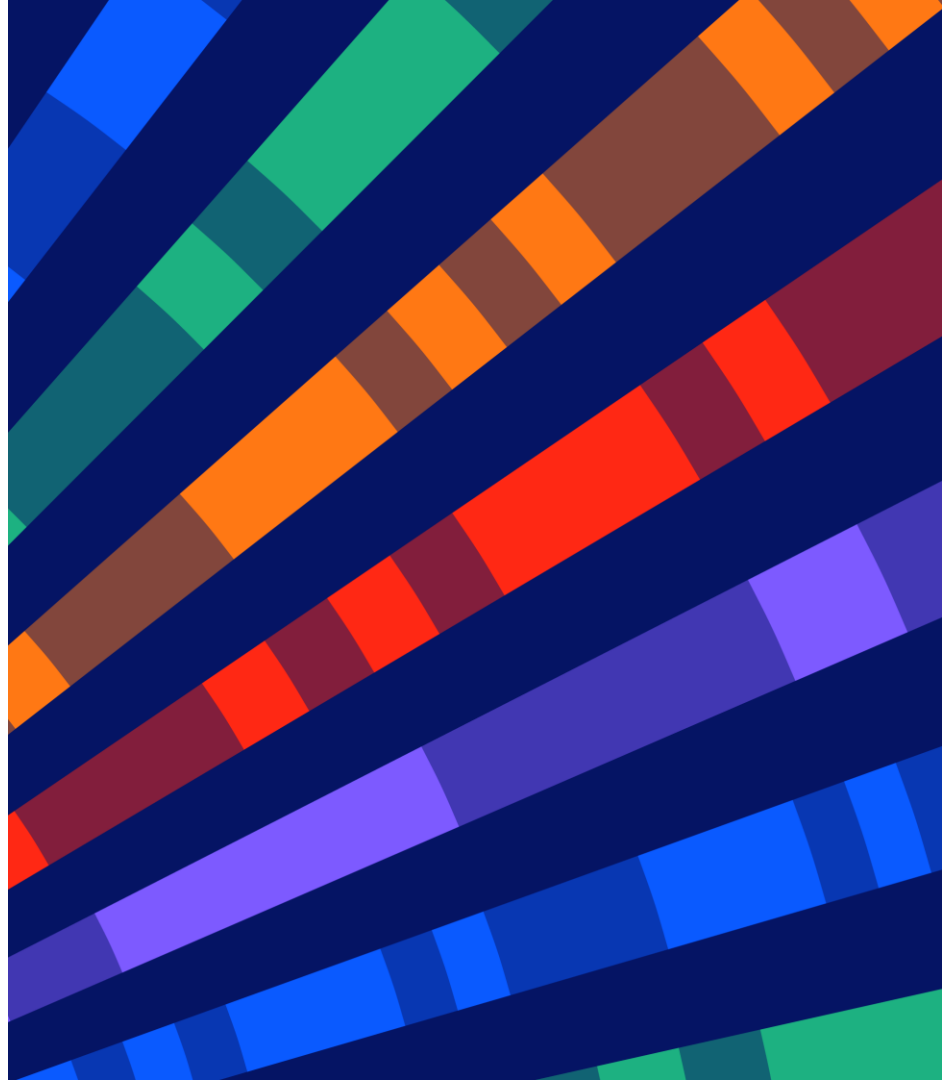
in Asia (2024)

#35

in the world (2025)



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School of Computing & Data Science



# 6999 Computing and Data Science

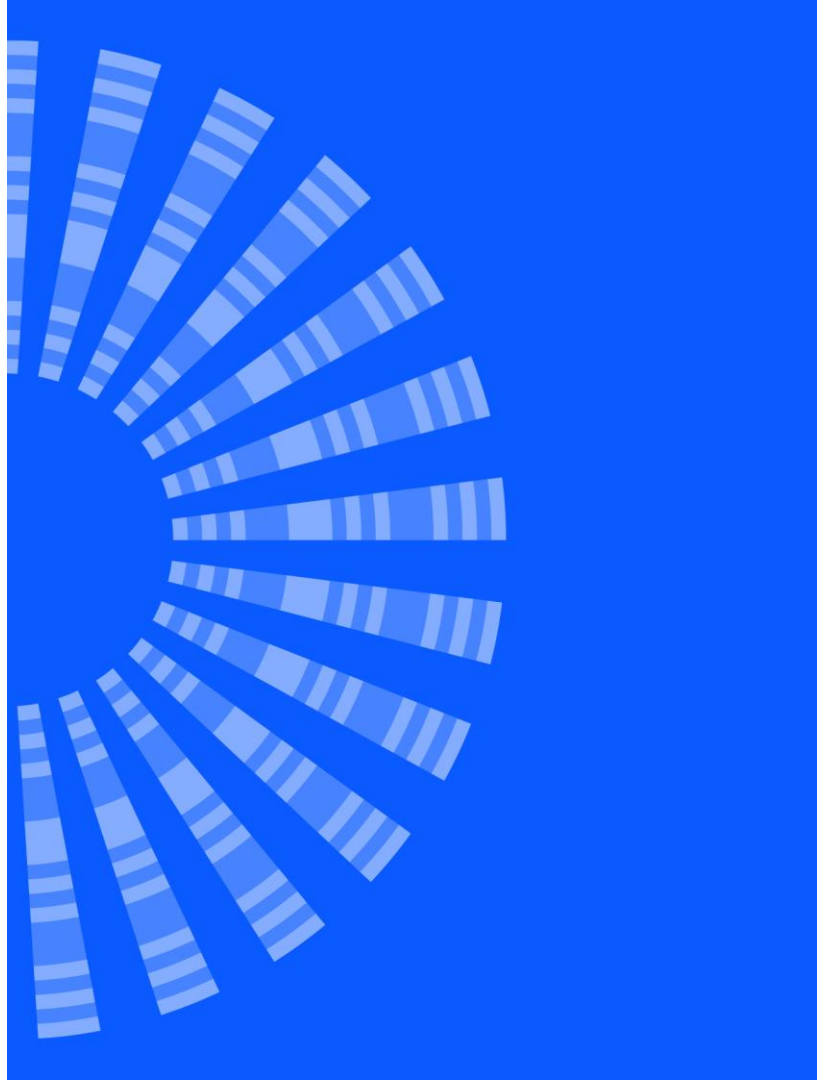
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The University of Hong Kong  
School of Computing & Data Science



# 6999 Computing and Data Science

## Two professional degree programmes

- Provides students with a solid foundation to excel in the rapidly evolving fields of computing, AI, data science, and other transformative technologies.
- Equip students with **fundamental knowledge** and **practical skills**
- **Students admitted to 6999 Computing and Data Science are free to choose (i.e., no quota limit applies) either of the aforesaid programmes.**
  - Students shall make a preliminary choice as an indication of their preferences; and they may freely choose the final programme by the end of their first year.
  - Students will take a common set of subjects in their first year.
- 2025-26 First year intake: up to 150+ including local and non-local students



# Bachelor of Engineering in Computer Science [BEng(CompSc)]



# Bachelor of Engineering in Computer Science [BEng(CompSc)]

## Comprehensive Knowledge Landscape



- Strong foundation in computer science and its applications
- Covers a wide range of topics:
  - Programming
  - Algorithms
  - Data structures
  - Software engineering
  - Computing infrastructures
  - Artificial intelligence technologies



Bachelor of Engineering in Computer Science has been accredited by The Hong Kong Institution of Engineers



# Bachelor of Engineering in Computer Science [BEng(CompSc)]

## Computer Science Focus Areas

### Theoretical Computer Science

Compiler, Functional programming,  
Quantum computing, Game theory,  
Cryptography, Advanced algorithm

### AI & Robotics

AI, Machine learning, Deep  
learning, Computer vision,  
Robotics, Hands-on AI

### Big Data Analytics

Statistical learning, AI, Machine  
learning, Adv DB, Data Mining,  
Bioinformatics

### Cyber Security

Cyber security, Cryptography,  
Cyber attack and defense,  
Digital forensics

### Financial Computing

Blockchain, Crypto-currency, E-  
payment, Ecommerce, Web  
technologies, Data mining

### Systems & Networking

Computer architecture, Web  
technologies, Mobile app design,  
Distributed computing, Scientific  
computing, Software systems





# Bachelor of Engineering in Computer Science [BEng(CompSc)]

## Curriculum Map

Year 1		Year 2	Year 3	Year 4
Foundation Courses 36 Credits		CS Core (Advanced) 30 Credits	Capstone Final Year Project (12 Credits) and Internship (0 Credit)	
CS Core (Introductory) 24 Credits	CS Disciplinary Electives 42 Credits		Focus	
Free Electives / Minor 42 Credits		May overload to take a 2 <sup>nd</sup> Major		
University Requirements Common Core, Language Enhancement 54 Credits				



# Bachelor of Engineering in Artificial Intelligence and Data Science [BEng(AI&DataSc)]



# Bachelor of Engineering in Artificial Intelligence and Data Science [BEng(AI&DataSc)]

## Comprehensive Knowledge Landscape

- Training students for careers in AI and data science
- Covers a wide range of topics:
  - Programming
  - Data modelling,
  - Big data systems,
  - Law and ethics in AI & DS,
  - AI technologies and applications



Bachelor of Engineering in AI and Data Science is a new programme, accreditation has been planned and will be sought as soon as the first cohort graduates



# Bachelor of Engineering in Artificial Intelligence and Data Science [BEng(AI&DataSc)]

## Curriculum Map

Year 1	Year 2	Year 3	Year 4
Foundation Courses 36 Credits	AI & DS Core (Advanced) 30 Credits	Capstone AI and data science in discipline project or Final Year Project (6 Credits), Real-life AI and data science course (6 credits) and Internship (0 Credit)	
AI & DS Core (Introductory) 24 Credits	AI & DS Disciplinary Electives 42 Credits		
Free Electives / Minor 42 Credits			<i>Encourage to pursue a minor programme related to the application of data science</i>
University Requirements Common Core, Language Enhancement 54 Credits			



# Bachelor of Engineering in Artificial Intelligence and Data Science [BEng(AI&DataSc)]

## Data science areas of expertise

### Backend

- Data engineer: Hardware, efficient computing, data storage (making data appropriate for downstream analysis)

### Frontend

- Data analysts: Wrangle, explore, quality assess, fit models to data, perform statistical inference, develop prototypes
- Machine learning engineers: Build and assess prediction algorithms, make the solution scalable and robust for many users

### Data science software developer

- Develop the software tools that facilitate data science

### Data scientist

- All-rounded

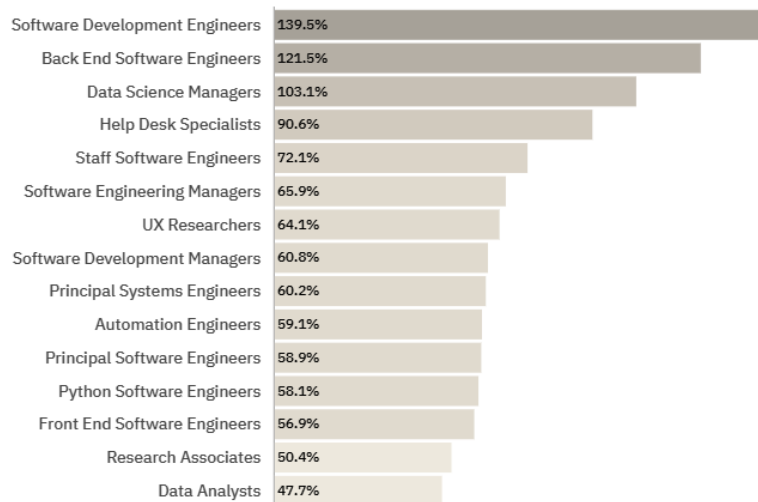


In many disciplines (e.g., healthcare, transportation, social care, law, e-commerce), it is increasingly important to discover new knowledge and insights from big data. According to DICE's Tech Job Reporting, in 2021-22:

### Top 15 Tech Occupations

by Job Posting YoY Growth %

Only Occupations in Top 100 by posting volume considered



## High demand and high impact

- Data science has evolved as a new discipline and profession
- A new paradigm for problem solving, leading to new products
- Shortage of professional data analysts worldwide, also for HK and GBA, e.g., shortage of over 250,000 data engineers/scientists by 2024 in US



### **Internships:**

Apply skills and knowledge in real-world settings and gain practical experience

### **Final year project:**

Apply skills to a specific problem or project in the field of computer science, AI and data science

### **Student exchange programme:**

Equip students knowledge, skills, and values needed to become influential citizens in today's globalised world



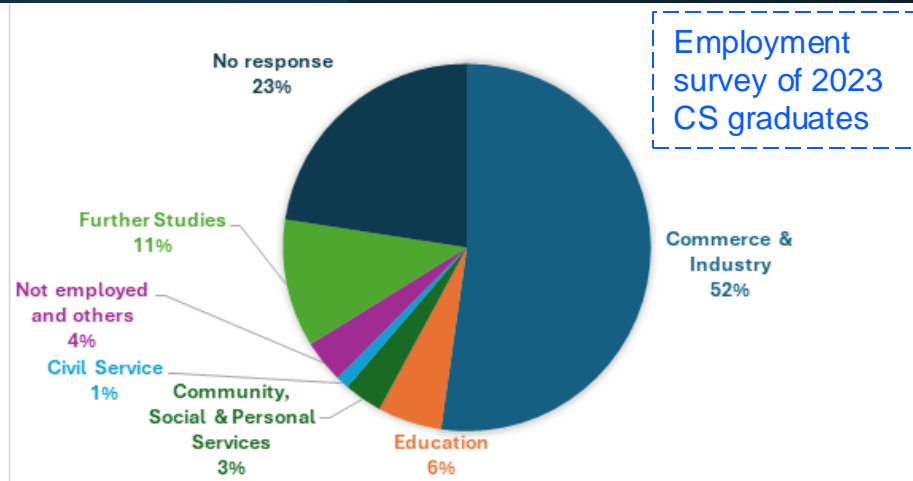
# 6999 Computing and Data Science

## Past Internships





- IT professionals in sectors of banking & finance, the government, education, IT & telecommunications, etc.
- Data engineer/architect
- Data scientist
- Data analyst
- Machine learning engineer
- Big data engineer
- Business/Technology analyst
- Information security analyst
- Professional computer forensic examiner
- Startup own company
- And more...



Gross Monthly Salary of  
**BEng(CompSc)**  
graduates in 2023

Average: \$28,357  
Maximum: \$54,916

Gross Monthly Salary of  
**BASc(AppliedAI)**  
graduates in 2023

Average: \$26,667  
Maximum: \$45,000

# 6999 Computing and Data Science

## Entrance requirements

### JUPAS route:

Programme	English Language	Chinese Language	Mathematics	Citizenship and Social Deveopment	Elective Subject: Category A subjects and Extended Module 1 or 2 in Mathematics (M1/M2)
6999 Computing and Data Science (CDS)	3	3	3	Attained	Level 3 in 2 subjects <sup>#</sup>

<sup>#</sup> Level 3 or above in one of the following subjects: Biology, Chemistry, Physics, Economics, or Information and Communication Technology; Level 3 or above in Mathematics Extended Part (Module 1 or 2) is preferred

### Admission formula:

Eng + 1.5 x Math + Best 2 Subjects with weighting (\*) + Best Subject

\* = 1.5 x M1/ M2 / Biology / Chemistry / Physics / Economics / Information and Communication Technology; 1 x other subjects

### 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 [cds.hku.hk/prospective-students/undergraduate](https://cds.hku.hk/prospective-students/undergraduate)

### **Tongcheng Travel Scholarship** **同程旅行獎學金**

Up to 5 awards each of HK\$80,000 for local students  
and 1 award of HK\$300,000 for non-local student  
awarded on the basis of academic merit.\*

\*subject to the University's approval and  
shared with 6224 BASc(Applied AI)

# Any questions? Feel free to ask here!

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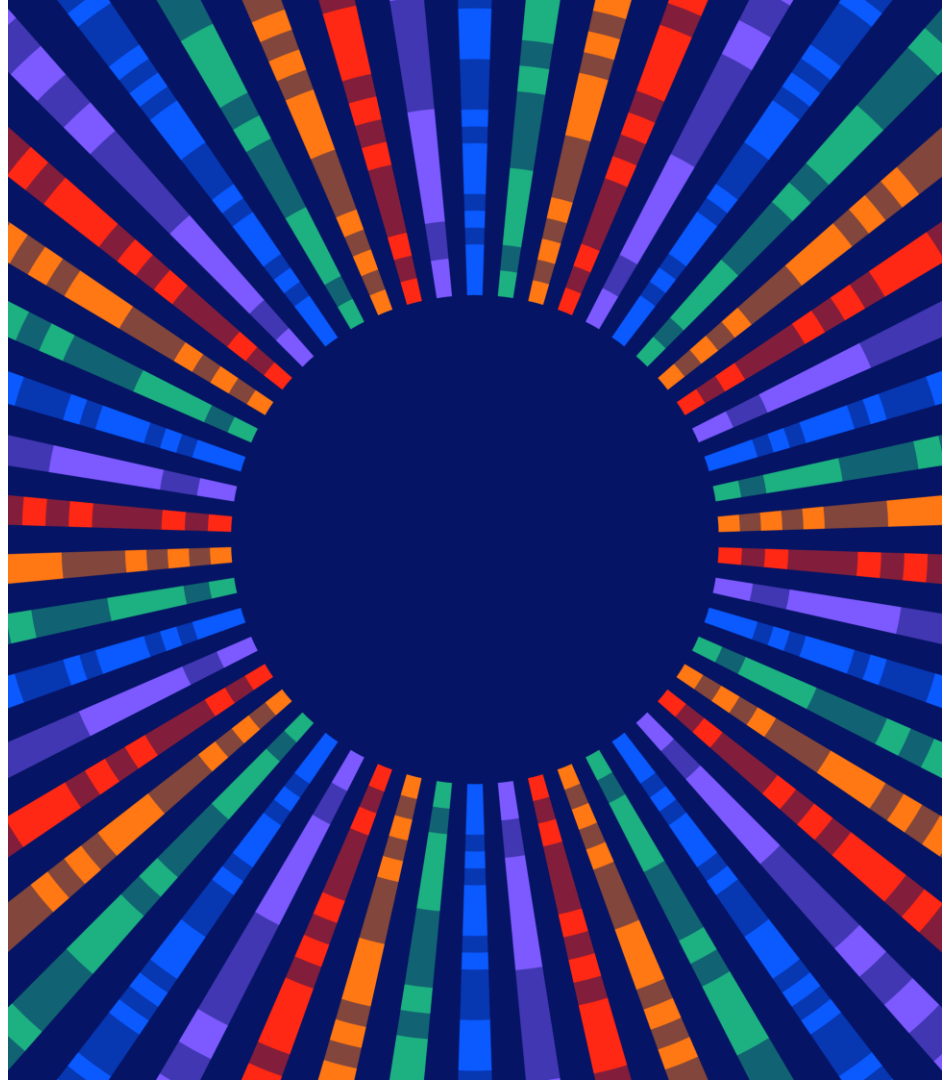


English



中文

The University of Hong Kong  
School of Computing & Data Science



# Thank you!

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Contact us

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