



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

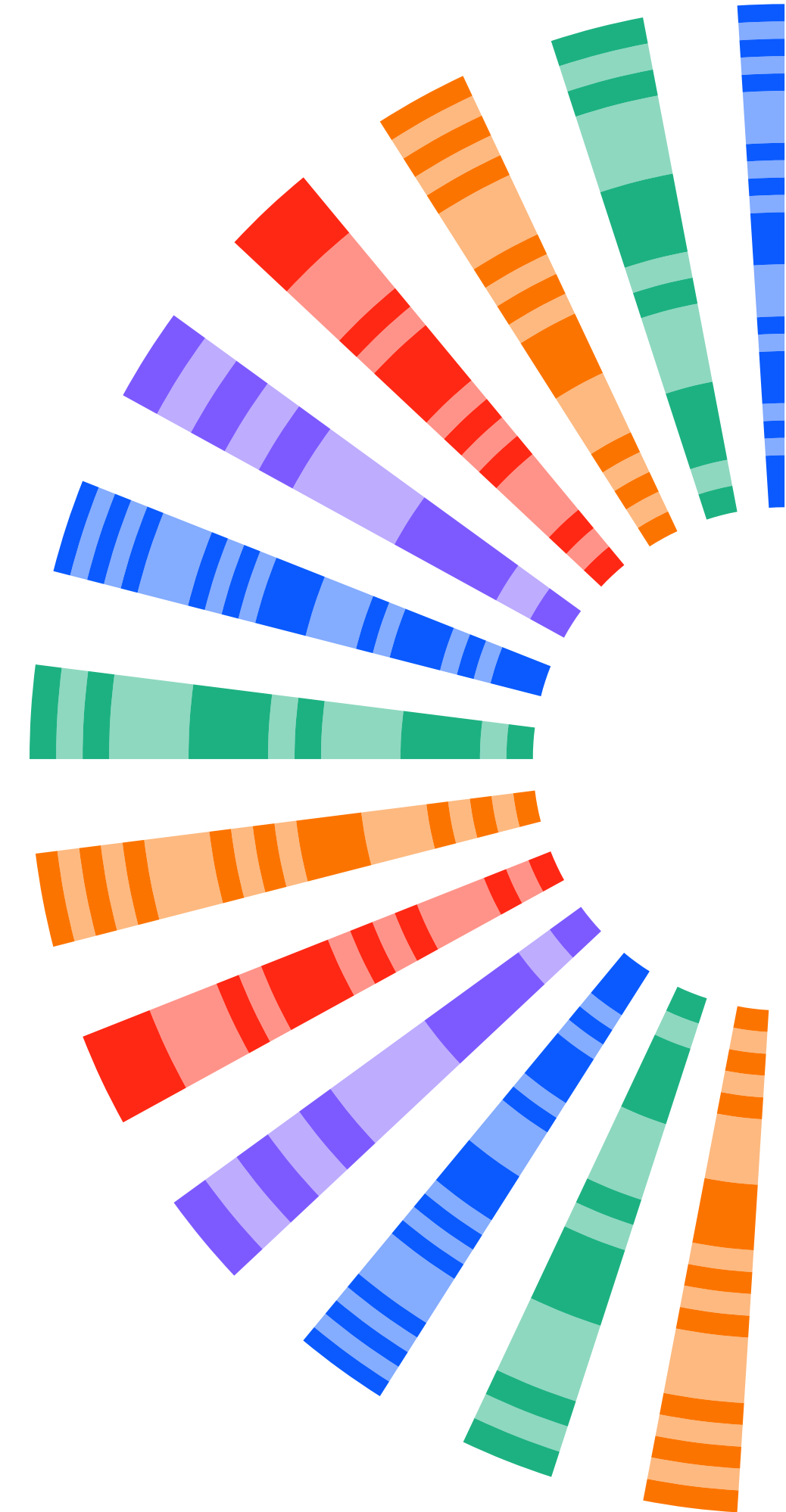
6999 Computing and Data Science

6200 Computing and Data Science (Delta+)

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

HKU Information Day 2025

Professor Zhiyi HUANG & Professor Ruibang LUO





SCHOOL OF
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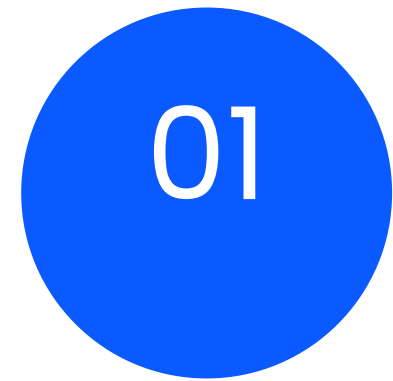
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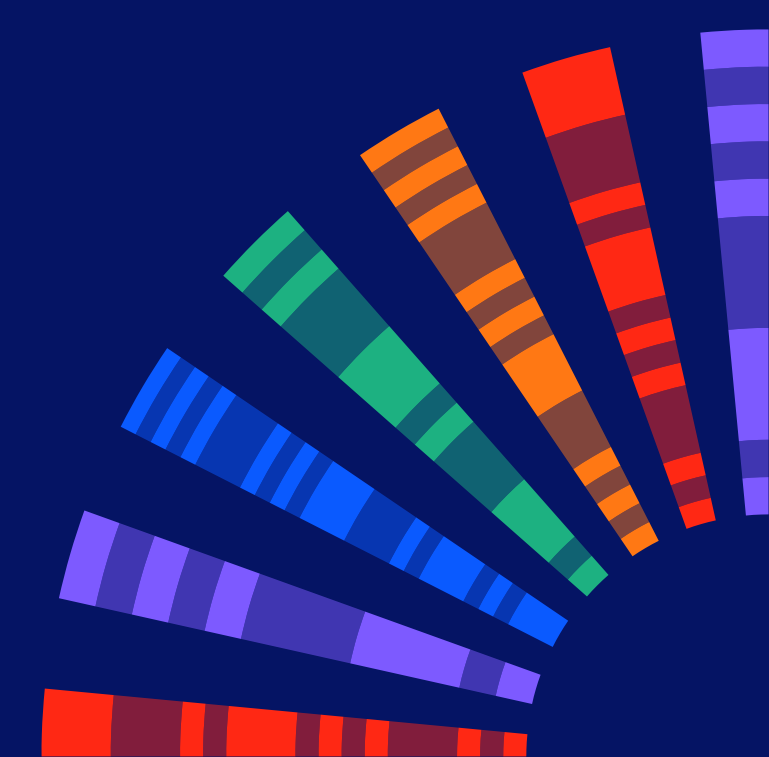




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ABOUT CDS





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01

ABOUT CDS



11th

18th

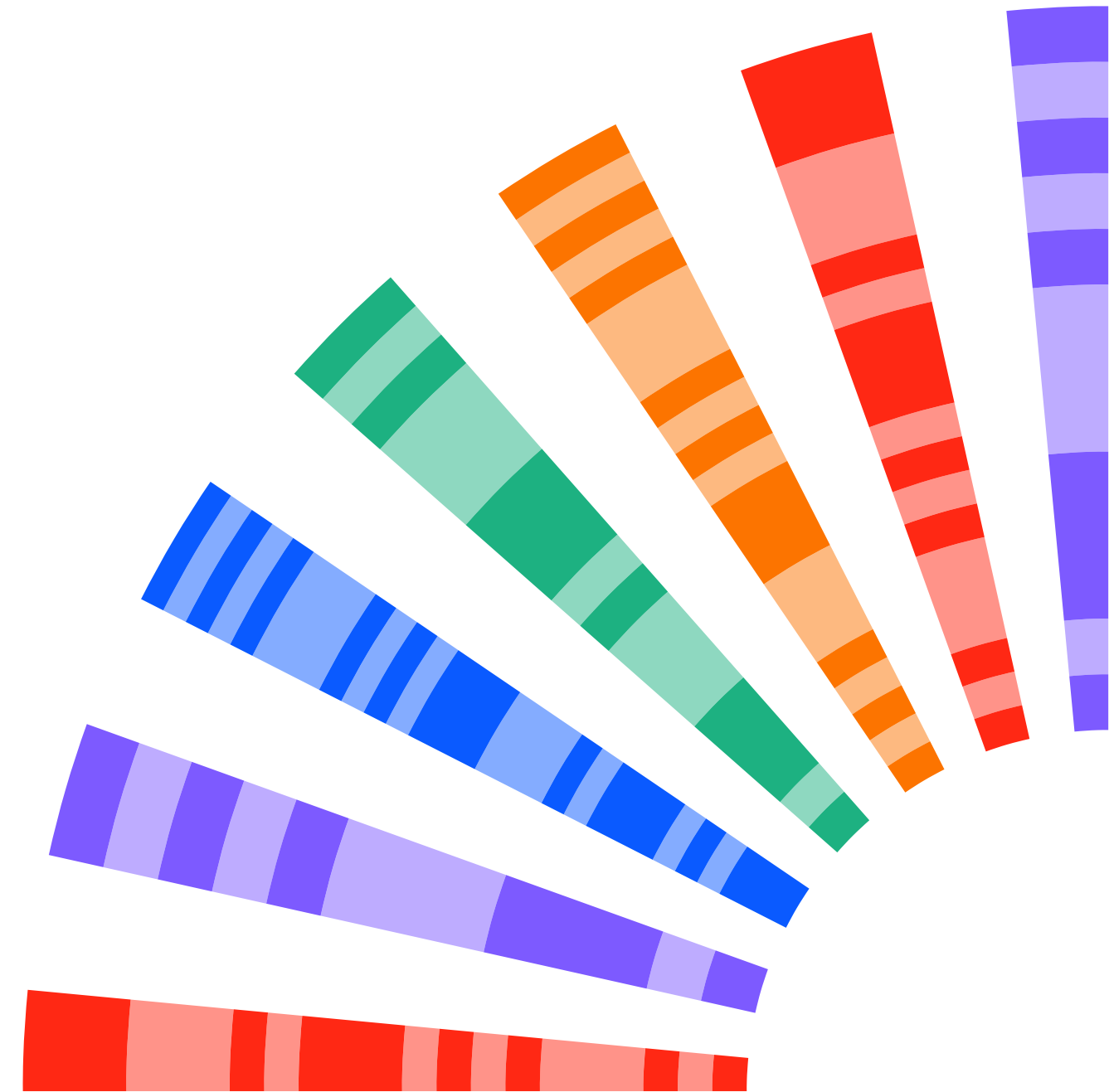
Data Science &
Artificial Intelligence

21st

Computer Science &
Information Science

24th

Statistics &
Operational Research





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01

ABOUT CDS

~70

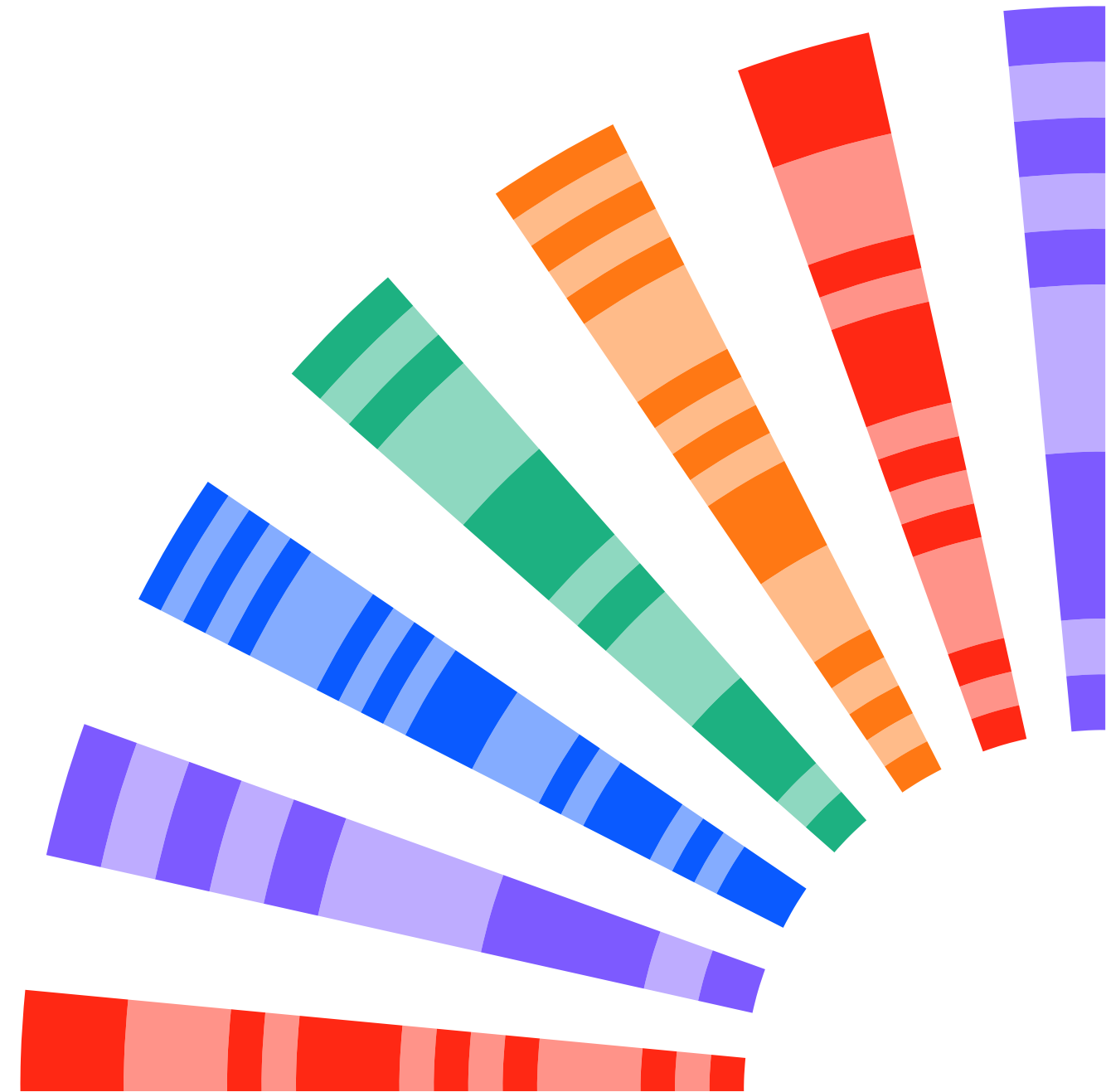
Professoriate and Teaching Staff

40+

Researcher and Postdoctoral Fellows

3,700+

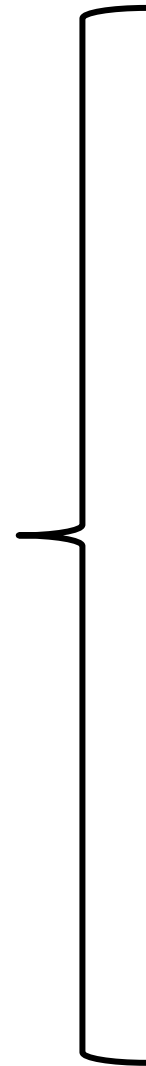
UG, TPG and RPG students





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**School of Computing
and Data Science
(CDS)**



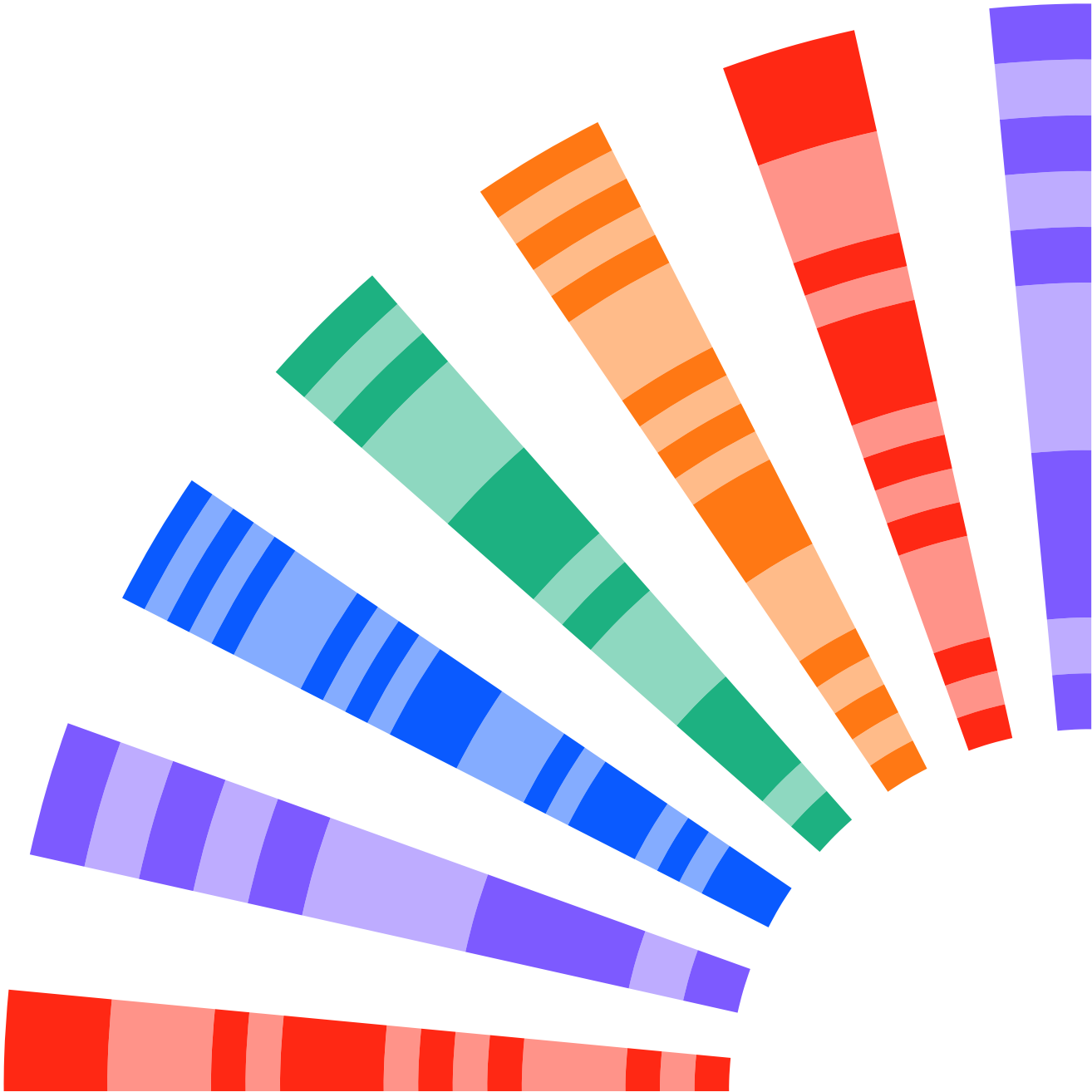
**Department of
Computer Science**

**Department of
AI and Data Science**

**Department of
Statistics and
Actuarial Science**

01

ABOUT CDS

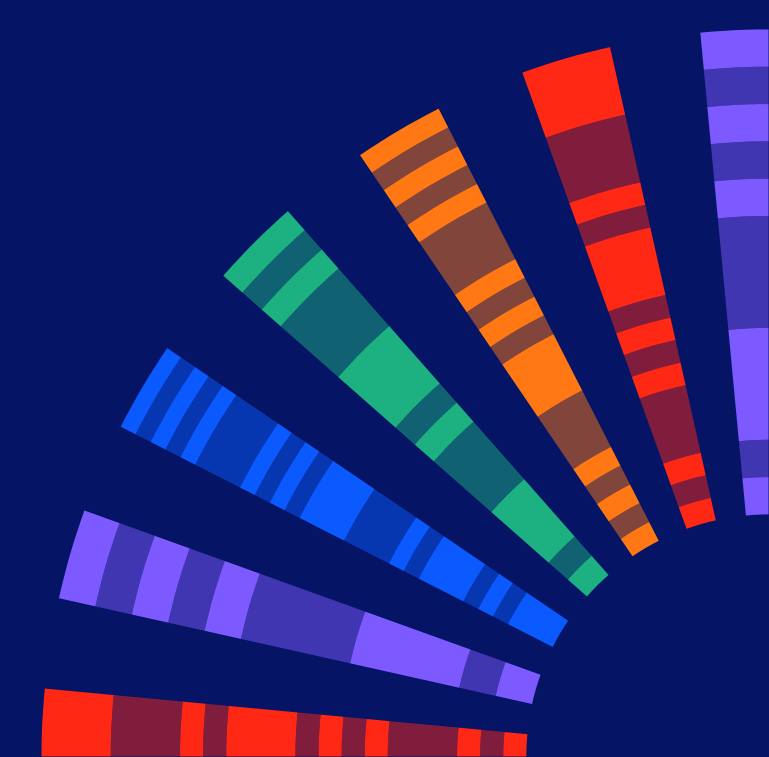




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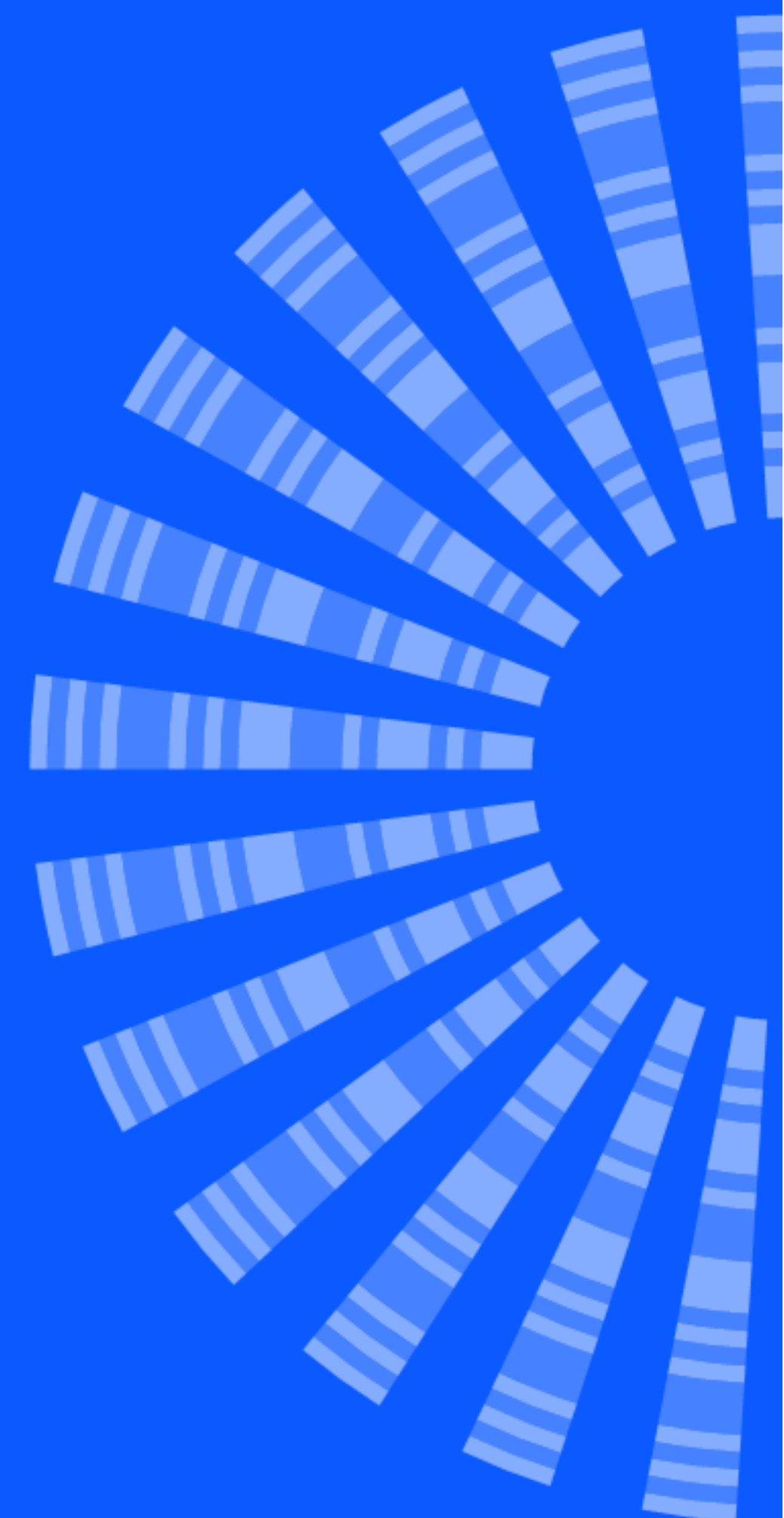
UNDERGRADUATE PROGRAMMES





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6999 Computing and Data Science

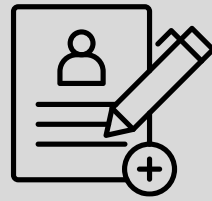




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6999 Computing and Data Science

Common Admissions



Students can choose between the two programmes after 1st year.

Accreditations



BEng(CompSc) has been **accredited by The Hong Kong Institution of Engineers**; and BEng(AI&DataSc) is undergoing accreditation approval process.

Market Needs



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 with the help of AI.

Shortage of professional data analysts and AI specialists worldwide, also for HK and GBA, e.g., **shortage of over 300,000 data engineers/scientists by 2025 in US**



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Common Admissions

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)]

Students admitted to 6999 Computing and Data Science are free to choose (i.e., no quota limit applies) either of the aforesaid programmes by the end of their first year.



Comprehensive Knowledge Landscape

Strong foundation in **all areas of computer science** and its applications

- Programming
- Algorithms and data structures
- Software engineering
- Computing infrastructures
- Artificial intelligence technologies
- Quantum computing
- Financial computing
- Cyber security



Enhanced AI & Data Science Experience

- Follow the latest AI and data science trend and developments
- Enhanced coverage on:
 - Data modelling
 - Big data systems
 - Law and ethics in AI & DS
 - AI applications and agents
 - Project management and communication

Curriculum Structure

	No. of Credits	
	BEng(AI&DataSc)	BEng(CompSc)
University Requirements		
- Language Enhancement Courses	12	
- Common Core Courses	36	
- AI Literacy Courses	6	
- Non-credit bearing courses as required by the University	0	
Foundation Courses	36	
Disciplinary Core Courses (Introductory)	24	
Disciplinary Core Courses (Advanced)	30	
Capstone Experience and Internship	18	
Disciplinary Elective Courses	36	
Elective Courses	42	
Total:	240	

Entrance Scholarships

Name of Scholarship	Total Awarded Amount	Number of Awards per year
Various University Entrance Scholarships	Depends on the type of students and qualification See https://admissions.hku.hk/fees-and-scholarships/scholarships	
Tongcheng Travel Scholarship	Up to HK\$300,000	6
School of Computing and Data Science Entrance Scholarship	Up to HK\$200,000	10
Computing and Data Science (6999) Entrance Scholarship	HK\$50,000 to HK\$100,000	50

More to come in the coming year

6999 Computing and Data Science

Exciting
opportunities

Student Exchange Programme

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

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

International Conference

Students will have opportunities to attend international conference worldwide to learn the latest development in the field



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02

UNDERGRADUATE
PROGRAMMES

Exchange



UC Berkeley



UNIVERSITY OF
WATERLOO





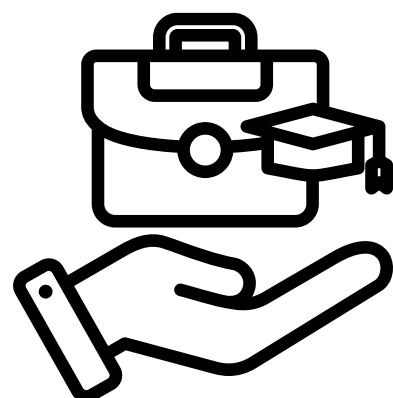
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02

UNDERGRADUATE
PROGRAMMES

Internship

Extensive opportunities





Recent Final Year Projects

CRITI GAME TESTING AND EVALUATION PLATFORM WITH MACHINE LEARNING FOR GAME DEVELOPERS

Supervisor: Dr. T.W. Chim Second Examiner: Prof. Zhao, Hengshuang
Group Members: Lee Chi Ho, Cheng Pak Yim, Siu Yuk Shing

OBJECTIVES

- Natural Language Processing (NLP) in analyzing game reviews
- Comprehensive and developer-driven **game review platform**
- Intuitive **overview** in sentiments and mentioned topics

BACKEND SYSTEM

DELIVERABLES

- Modern **Web Application** with PWA and Responsive Web Design
- Fully-Trained **Machine Learning Models**
- Scalable **Backend Architecture** with CI/CD, Monitoring, Fault Tolerance

VISIT OUR PLATFORM

MACHINE LEARNING

- Sentiment Analysis**
BERT
100% Accuracy on 1M Validation Set
Outperform GloVe+CNN and TFIDF+RF
- Topic Modeling**
BERTopic
Coherent and Diverse topic identification
Transferrable on unseen games
Auto topic naming with LLM
Outperform LDA and CTM

Keyword Extraction

USER INTERFACES

Powered by: MISTRAL AI, Chroma

A Mobile Application for Anxiety Tracking and Management

Supervisor: Dr. Choi, Yi King Second Examiner: Professor Wu, Chuan
Yeung Wing Pan

Introduction

Stress and anxiety have become pervasive issues in contemporary society. This Final Year Project aims to explore solutions leveraging advanced technologies, such as Heart Rate Variability (HRV) monitoring, to address these challenges.

Methodology

Architecture: Model - View - Viewmodel (MVVM)
Frameworks: • SwiftUI • CoreData • HealthKit
Operating System: **iOS**
Database: **Firestore**

4 Main Feature

- Track & Record Anxiety**
 - Auto-Track**
 - (HRV) Heart Rate Variability
 - Lower HRV → Higher Stress
 - Higher HRV → Lower Stress
 - (RHR) Resting Heart Rate
 - Manual-Track**
 - Self-Monitoring Record
- Data Analysis & Visualization**
 - Personal Baseline**: HRV baseline is a range of values calculated from user's their own measurement history.
 - LineChart**: Weekly Trend
 - PointChart**: Every Avg. hour value of HRV
 - BarChart**: Higher Stress / Lower Stress
 - Heatmap**: Range of Change in each day
- Learning & Support**
 - The platform provides educational resources for managing anxiety and understanding mental health. Given that we are not mental health experts, our approach is to collaborate with mental health organizations to publish informative blogs on our platform. This way, we can ensure that we provide our users with professional and educational resources to help them better understand anxiety and mental health.
- Anonymous Sharing Community**
 - The platform provides a secure and confidential environment for users to share their thoughts and emotions.
 - The final feature is to develop an anonymous social platform where users can freely express their thoughts and emotions. Additionally, users can comment and like to support others.



Recent Final Year Projects

Intelligent Robot Design and Implementation

Supervisor: Dr. T. W. Chim, Tutor: Mr. David Lee, Second Examiner: Dr. C. K. Chui

Kwok Ka Yan, Leung Cham Chung Terry, Chan Hiu Tung, Tang Gillian

Microcontroller



ESP-32: Connects to ROS using USB Serial; coordinates the IMU and servos with ROS

MPU-9250: 9-axis inertial measurement unit with digital motion processor; connected to ESP-32 using I2C

PCA9685: 16-channel I2C-bus controlled PWM controller. It has 12-bit resolution to specify the PWM signals to each servo



Robot Dog

Odometry (SLAM)

Main sensors used in Odometry: Planar LiDAR (X4 ydlidar), stereo camera (D435i), IMU (D435i, MPU-9250)

Planar LiDAR: Long range, but only 2D information

Depth Camera: Detailed 3D object information, but short range

Kalman filter: integrate all sensor data statistically to estimate current position and orientation



CHAMP

Framework: based on a hierarchical quadruped locomotive algorithm with gait modulation and leg trajectory generator

Modifications: include the sensor orientation information (roll, pitch) for self-balancing using PID control

Library integration: integrated with ROS navigation stack, mapping, and SLAM libraries, which are extensively used



Mobile User Interface



Web Interface

Technologies: React, Three JS, RobotWebTools

RobotWebTools: provide WebSocket middleware to interact with ROS network

Three JS: loads the URDF model + mesh and creates a virtual environment; the robot model is updated in real time as well as its environment.

Dynamic control panel (leva): a GUI control panel made for React Three Fiber application and interact with the scene

Computer Vision

3D scene reconstruction: build a voxel-based map from depth-images for visualization and path planning

Pose estimation: estimate the position and orientation of certain targets (e.g. human) to facilitate reconnaissance and dynamic object following



Solidity Intelligent Debugger

Supervisor

Luo Ruibang; Lam Tak-Wah

Li Zhuokai; Wang Hongyu; Pang Bowen; Zhou Peiwen

Abstract

Our team develop a tool that uses machine learning to obtain existing smart contracts written in Solidity on the Internet to train a large language model and use this to find potential bugs that may appear in the smart contract paragraph input by the users.

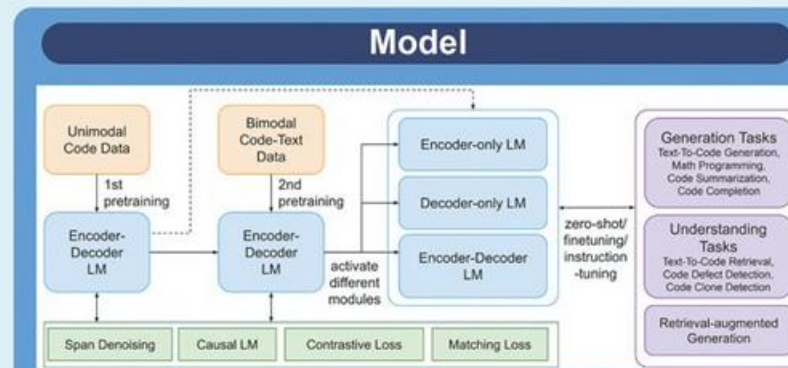
Objectives

1. Solidity Code Understanding

After receiving input from the user, the model used in this project should be capable of understanding the code written in Solidity, finding the potential vulnerable components in the program, and showing them to the user.

2. Secure and Error Detection

The suggestion given by the model is expected to either focus on the logic issues or the safety of the input program, which are the main two problems that a programmer faces during the coding process. This functionality is believed to effectively save the time spent on testing the code, and significantly decrease the time from the beginning of the project to the deployment of the final smart contract.



CodeT5+ is a new family of open code large language models with an encoder-decoder architecture that can flexibly operate in different modes (i.e. encoder-only, decoder-only, and encoder-decoder) to support a wide range of code understanding and generation tasks.

Interface



Include the name of the tool "Solidity Debugger" and the logo. Include a window for users to input, users can input their code to the left box and the tool will generate a modified version of the solidity code in the right box, which highlight the differences of the original code and modified code.





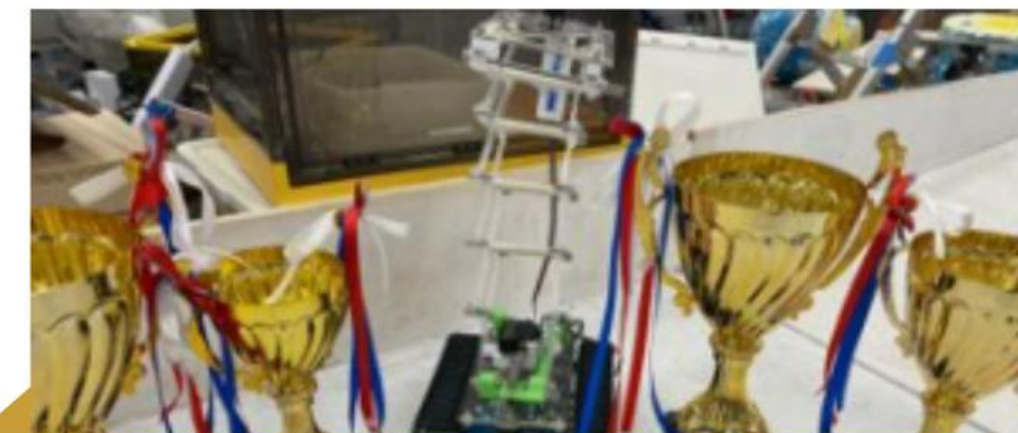
International Conference/Symposiums /Competitions



International Symposium on Academic Makerspaces 2023 and 2024 (ISAM 2023, ISAM 2024) (Pittsburgh, USA)



ICRA Second Place in Teleoperation at IEEE International Conference on Robotics and Automation – ICRA 2024



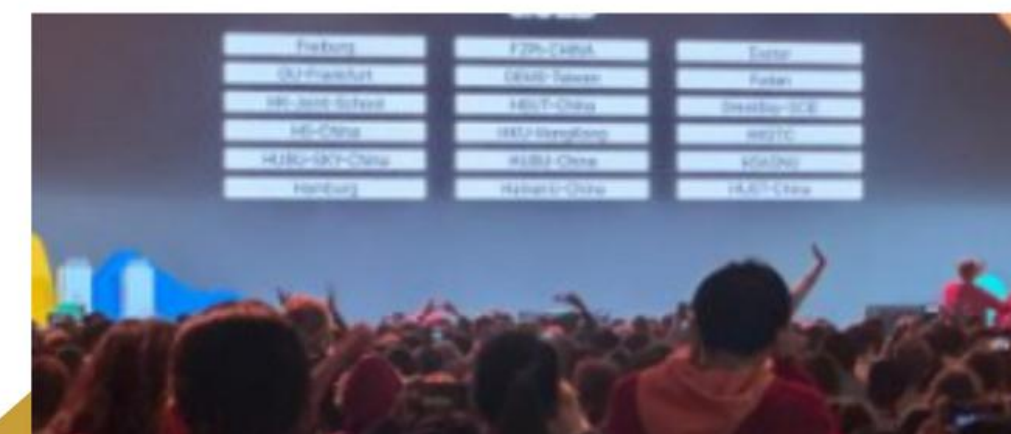
HKU Robocon
HKIE: 粵港澳大灣區高校創新工程邀請賽
最具創意遙控車設計獎 季軍, 最快速遙控車獎 冠軍,
最少支撐及最輕巧橋樑獎 亞軍 and 最高沙堡獎 冠軍



Design, Build and Fly Team
Second Place at British Model Flying Association 2024 University and Schools Payload Challenges



Dual Honours at Global AI Challenge for Building E&M Facilities, Gold Award and ALIBABA Cloud Most Scalable AI Solution Award, 2025



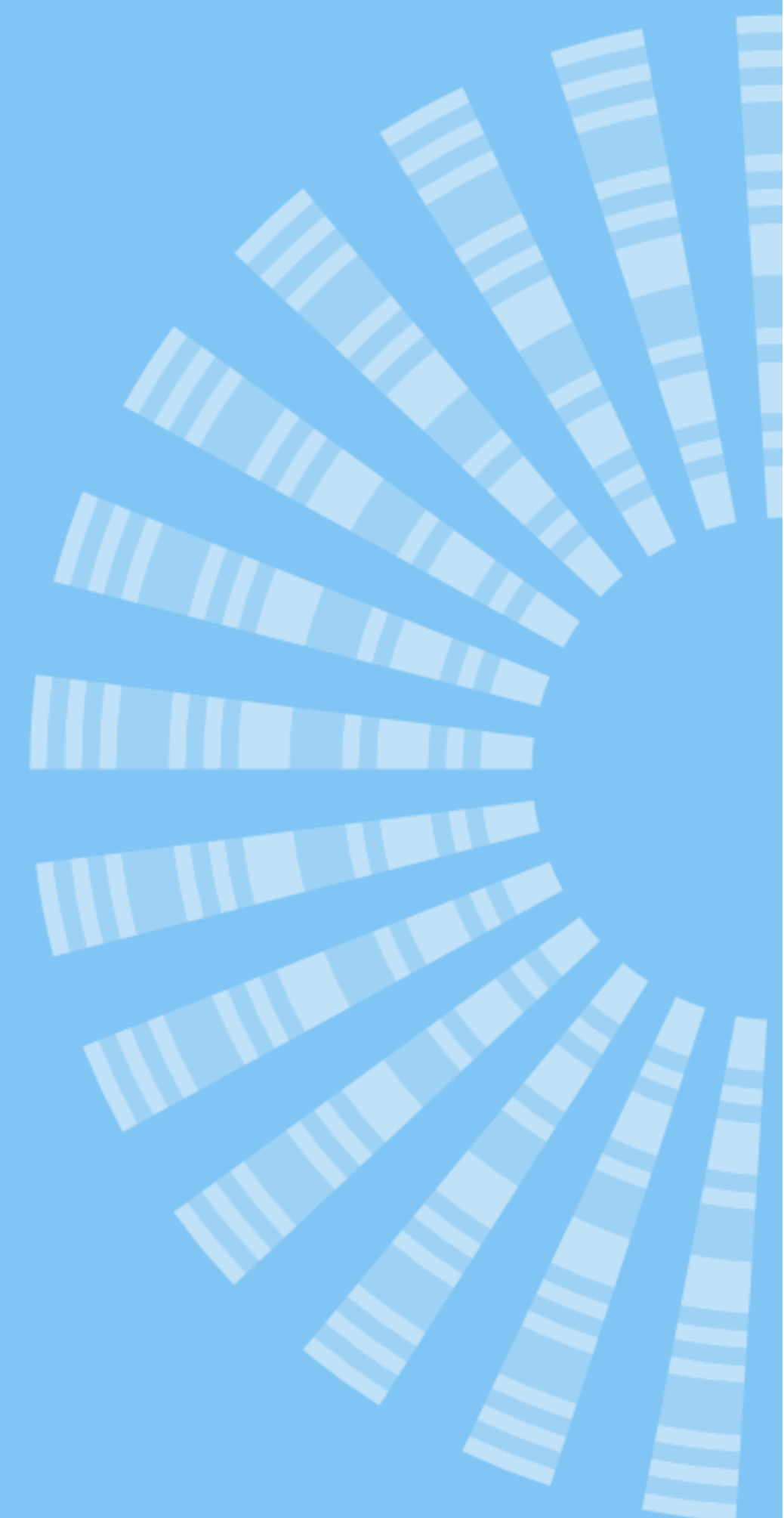
iGEM (Project title: Car-Ma)
Gold Medal at iGEM 2023 Grand Jamboree



Delta 
COMPUTING & DATA SCIENCE

6200

**Computing and
Data Science
(Delta+)**





Delta

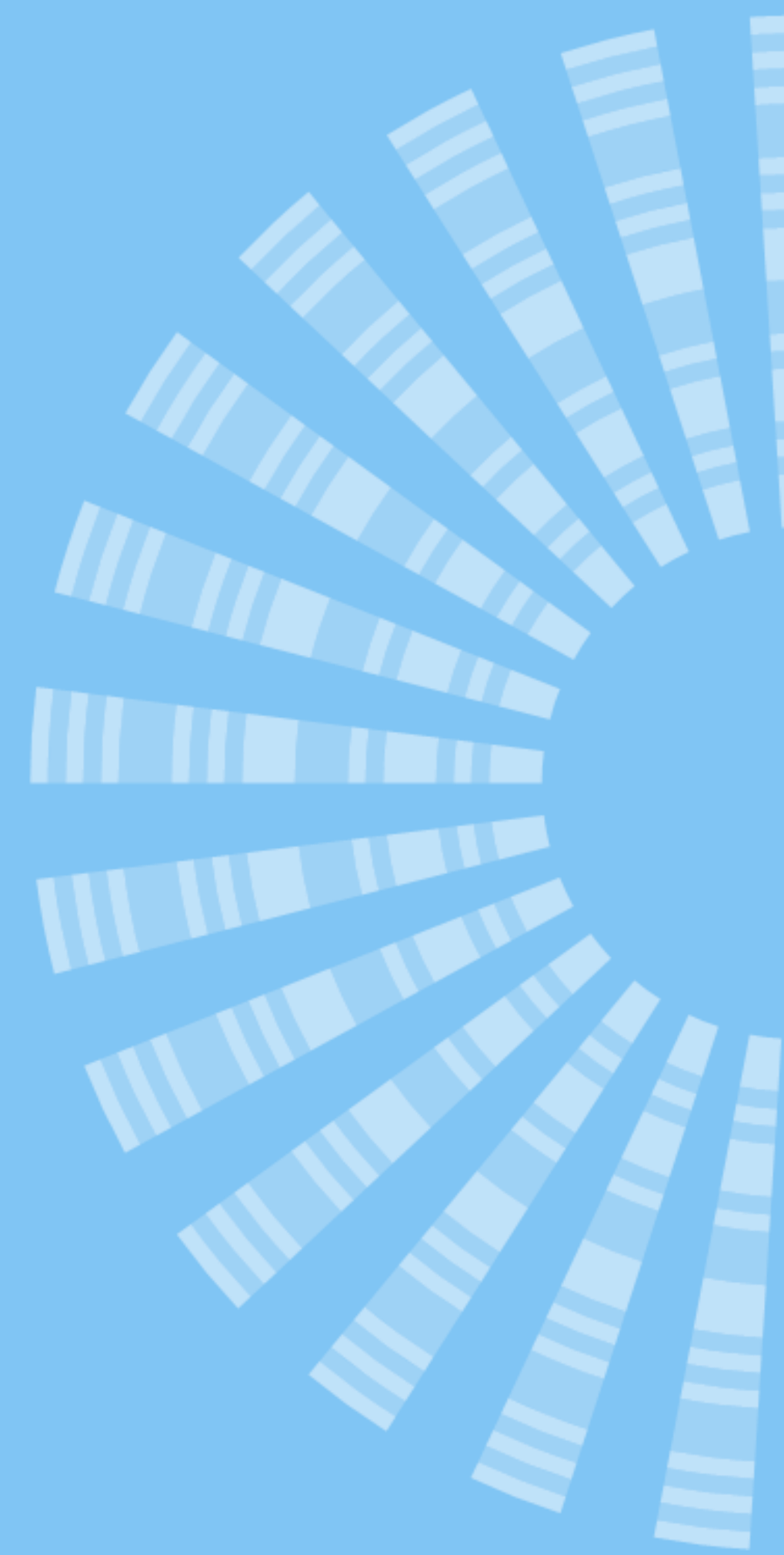
COMPUTING & DATA SCIENCE

Two Professional Degree Programmes:

1. Bachelor of Engineering in Computer Science [BEng(CompSc)]
2. Bachelor of Engineering in Artificial Intelligence and Data Science [BEng(AI&DataSc)]

Time in Hong Kong
2.5-year of study at HKU

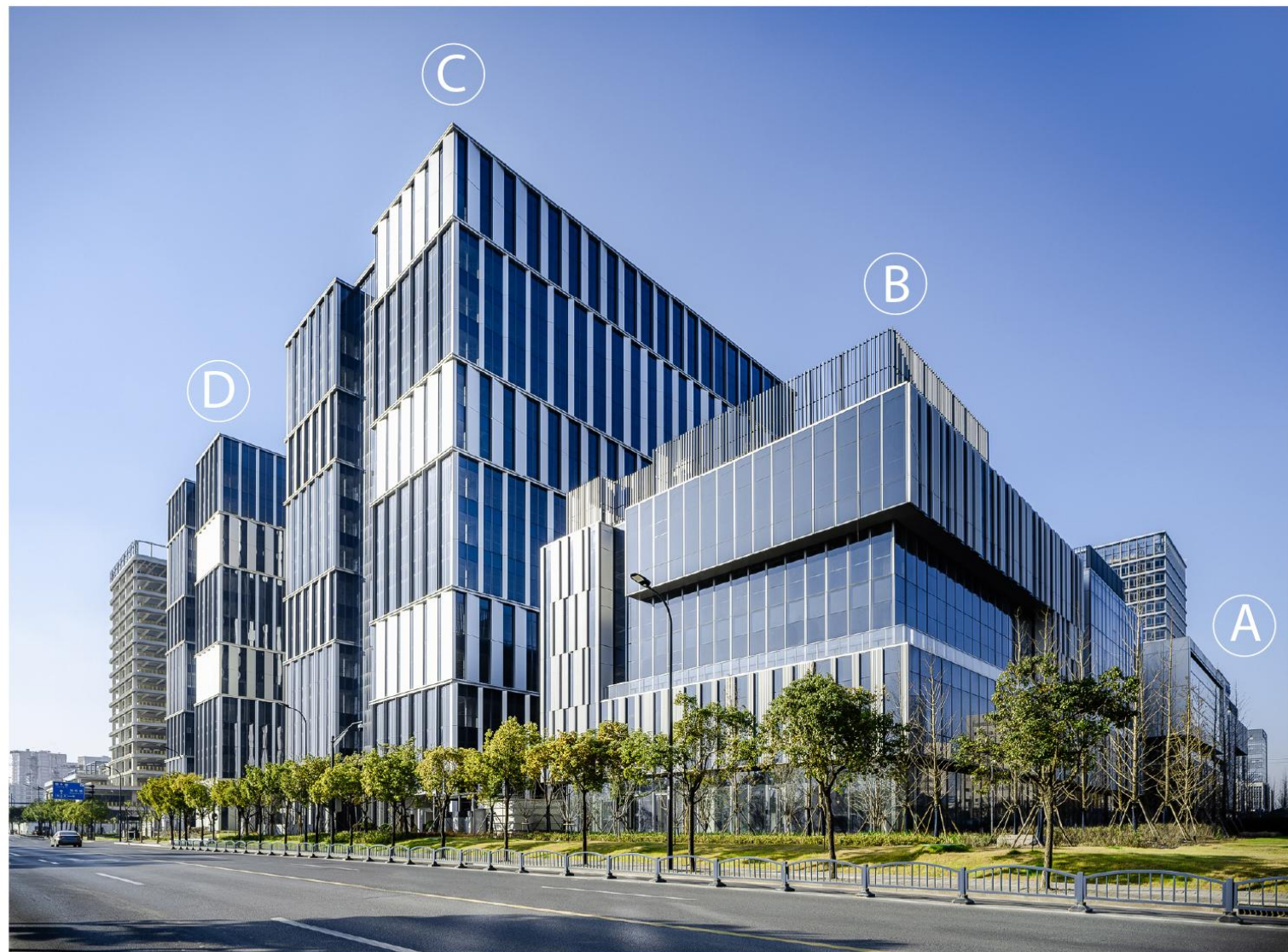
Time in Shanghai
Final 1.5 years in HKU-CDS
Shanghai teaching and
research site, tapping into
Shanghai's AI ecosystem



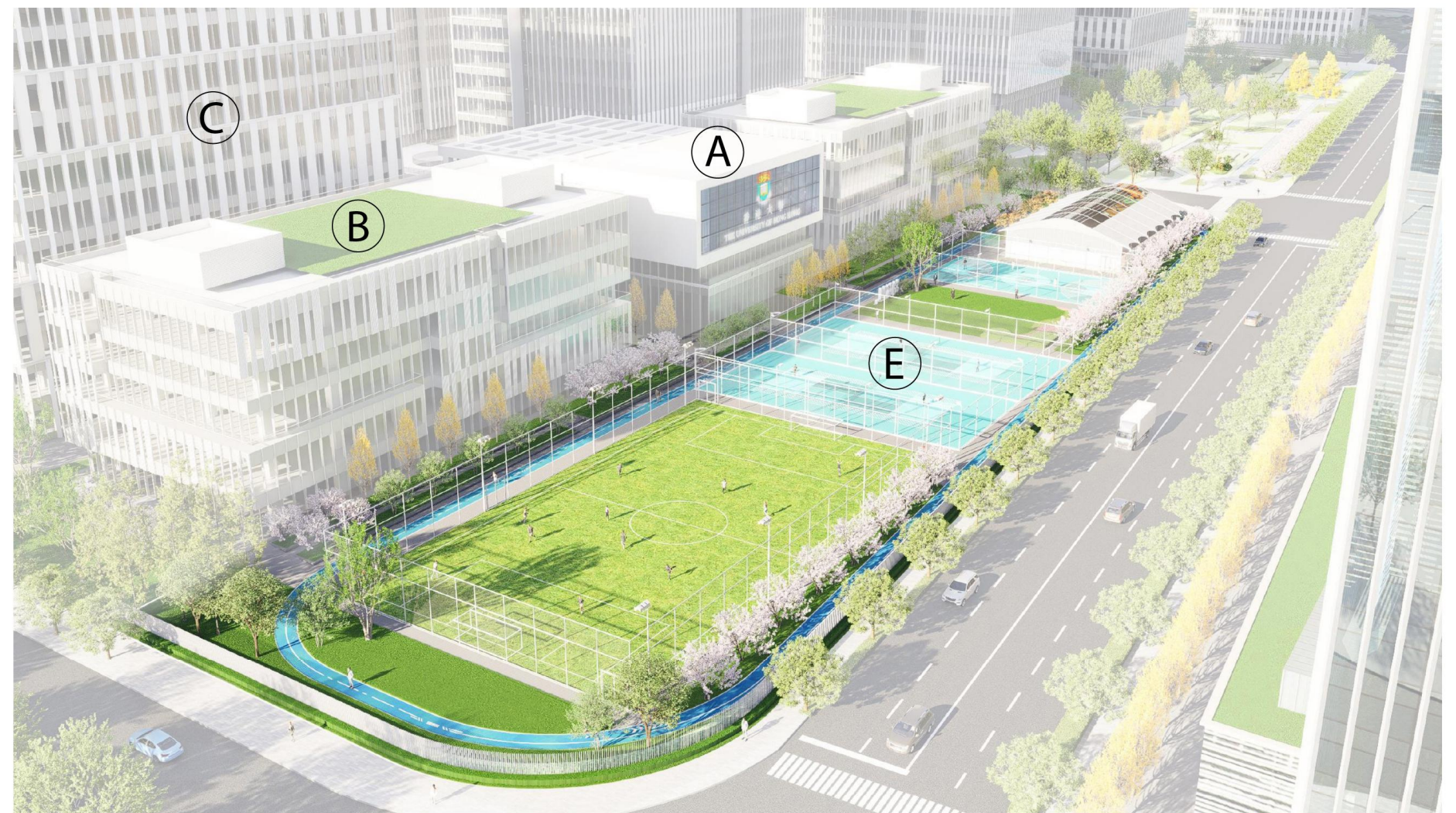
HKU-CDS Shanghai Teaching and Research Site



Zhangjiang Hi-Tech Park, located in the golden development belt of Pudong New Area of Shanghai, is situated in the Shanghai Integrated Circuit Design Industrial Park, with convenient transportation and perfect supporting facilities, making it an ideal place for learning and living.



A: Auditorium
B: Student Amenities & Learning Commons
C: CDS Main Building
D: CDS Tech Landmark



A: Auditorium
B: Student Amenities & Learning Commons
C: CDS Main Building
E: Sports Facilities (under construction*)

*A new sports complex, featuring a 400-meter jogging track, a versatile outdoor sports area, and an indoor basketball facility, is set to be completed in early 2026.

HKU-CDS Shanghai T&R Site resides in Zhangjiang Hi-Tech Park

Surrounded by a vibrant ecosystem of technology companies



Prominent tech company partners Internship, CTO talks & company visit



(上海智能制造项目组)





Delta+

Industry Internship

Hands-on experience through a structured internship with tech companies in Shanghai.

HKU-Taught Curriculum

All courses offered in Shanghai are taught by HKU professors to ensure academic continuity and quality.

Comprehensive Support

Support for round-trip airfare, student residence, and a living allowance.

Industry-Inspired Capstone

Bridge theory and practice through a substantial project tied to industry challenges experience

Master's Degree Engagement

Pre-approved for 2 MSc-level courses in 4th year + Conditional offer for MSc (CS), i.e., BEng + MSc in 5 years

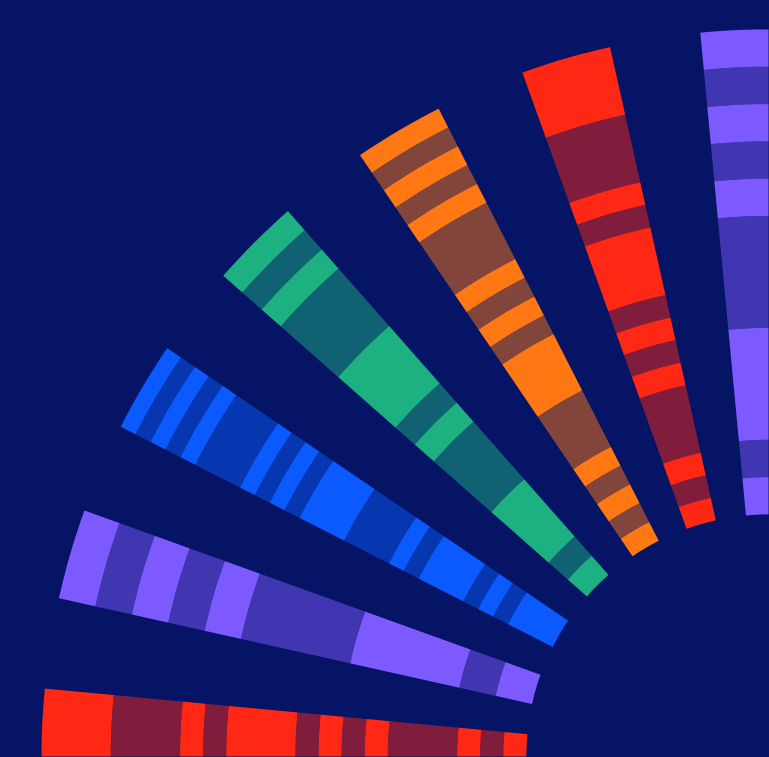
Tech Exposure

Exclusive tech company visits and seminars with tech leaders in Shanghai.



03

ADMISSIONS REQUIREMENTS (JUPAS AND NON-JUPAS)





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The University of Hong Kong

6999 Computing and Data Science

04

**ADMISSIONS
REQUIREMENTS**

JUPAS

**HKDSE
Minimum
Level
Required**

English: 3
Chinese: 3
Mathematics: 3
CZ/LS: Attained (A)/2
Elective Subject 1: 3
Elective Subject 2: 3

Admission formula:

Eng + Math + Best 3 Subjects*

***may include M1/M2**

Interview: **Yes (January, 2026)**

NON-JUPAS

Minimum Requirement

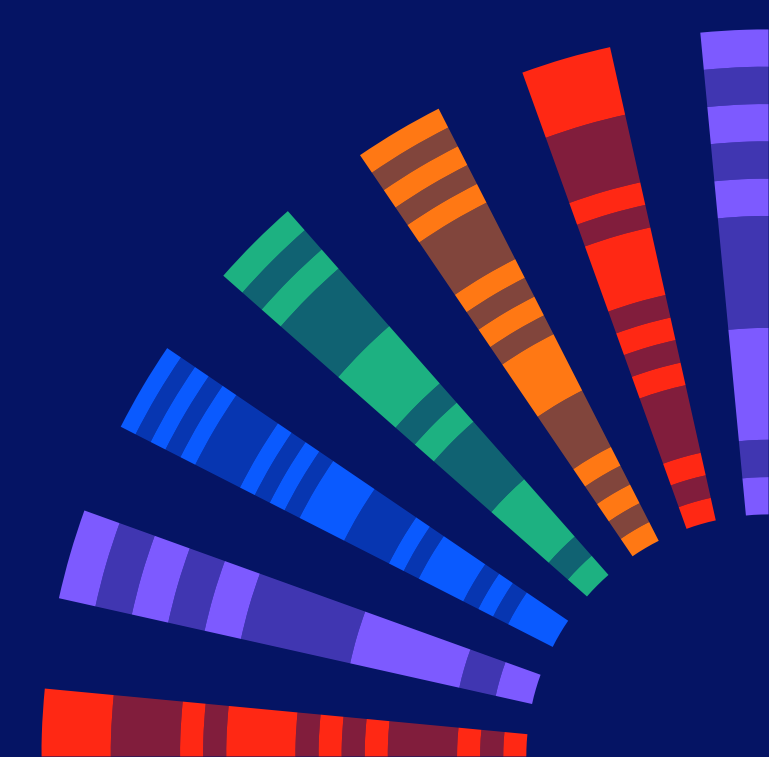
GCE AL	IB	AP and SAT
2A*1A	38	Grade 5 in three AP subjects and Grade 4 in two additional AP subjects or SAT 1400



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EMPLOYMENT





Career Prospects

Monthly salary in 2024:

Average: HK\$27,283 / Maximum: HK\$58,333

Graduates' Employers	Job Title
Accenture	Customer Software Engineering Analyst
AsiaPay Limited	Technical Support
Banco Santander Hong Kong Branch	Graduate Analyst
Bank of China (Hong Kong) Limited	Management Trainee
Bank of China (Hong Kong) Limited	FPS Developer
Bonhams (Hong Kong) Ltd	Sale Representative
Bybit	Backend Developer
Crypto.com	Occupation's name not reported
Datax Limited	AI System Engineer
Deloitte Advisory (Hong Kond) Ltd	Analyst
Flow Traders	Trading Operations Engineer
GLORY.LTD	Software Designer
Goldman Sachs Services (Asia) Ltd	Analyst
Hitachi Rail	Associate Engineer
Hong Kong Aircraft Engineering Company Ltd (HAECO)	Associate Solution Analyst
Huawei Technologies Co, Ltd	Software Development Engineer
IBM	Platform Engineer
IBM Hong Kong	Associate Consultant
Hong Kong Monetary Authority	Data Engineer
iFAST Financial (Hong Kong) Ltd	IT Specialist
iFAST Financial (Hong Kong) Ltd	Occupation's name not reported

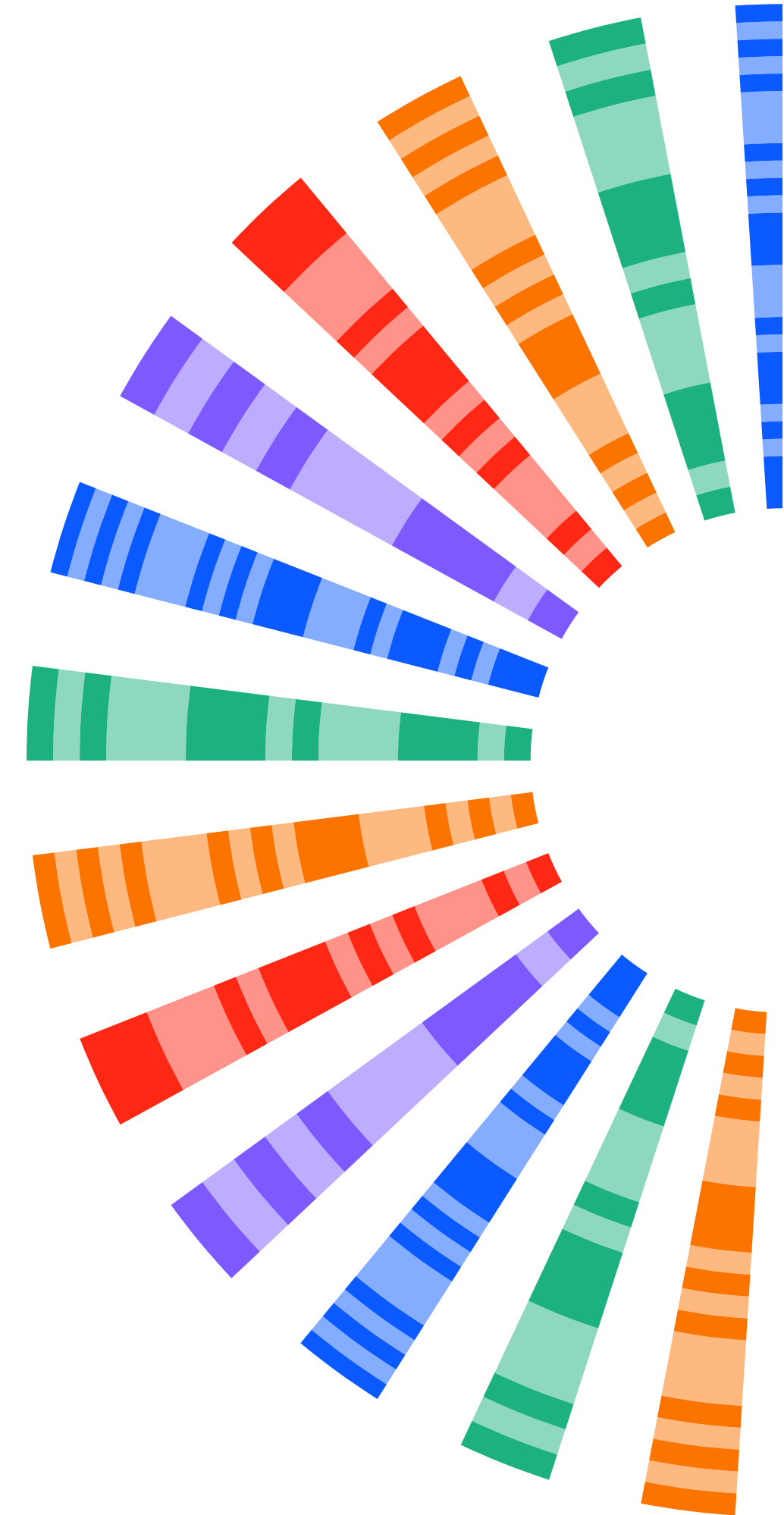
Graduates' Employers	Job Title
J.P. Morgan Chase	Software Engineer
J.P. Morgan Chase	Technology Analyst
KM.ON by KARL MAYER	Junior Full Stack Engineer
Lalamove Hong Kong	Data Engineer
Mad Head Limited	Programmer
Moneylion	Engineer
Odoo	Technical Consultant APAC
OKX	Android Mobile Engineer
OKX	Backend Software Engineer
OKX	Engineer
OKX	Software Engineer I
Orient Overseas Container Line Ltd (OOCL)	Assistant Technical Analyst
Planto Ltd	Junior Software Engineer
Polymer Capital Management	Quant Developer
Rabbit Credit Limited	Software Engineer
Team-C Limited	Programmer
Tencent Holdings Ltd	Programmer
VISA	Project Assoicate
Votee AI Ltd	AI Engineer
The University of Hong Kong	IT Executive
Hong Kong Science & Technology Parks Corporation	Programmer



SCHOOL OF
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The University of Hong Kong

Q&A Session

Online Survey





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Thank you!

Contact us

Email: cds.admission@hku.hk

Website: cds.hku.hk

Instagram: [@hku.cds](https://www.instagram.com/hku.cds)

