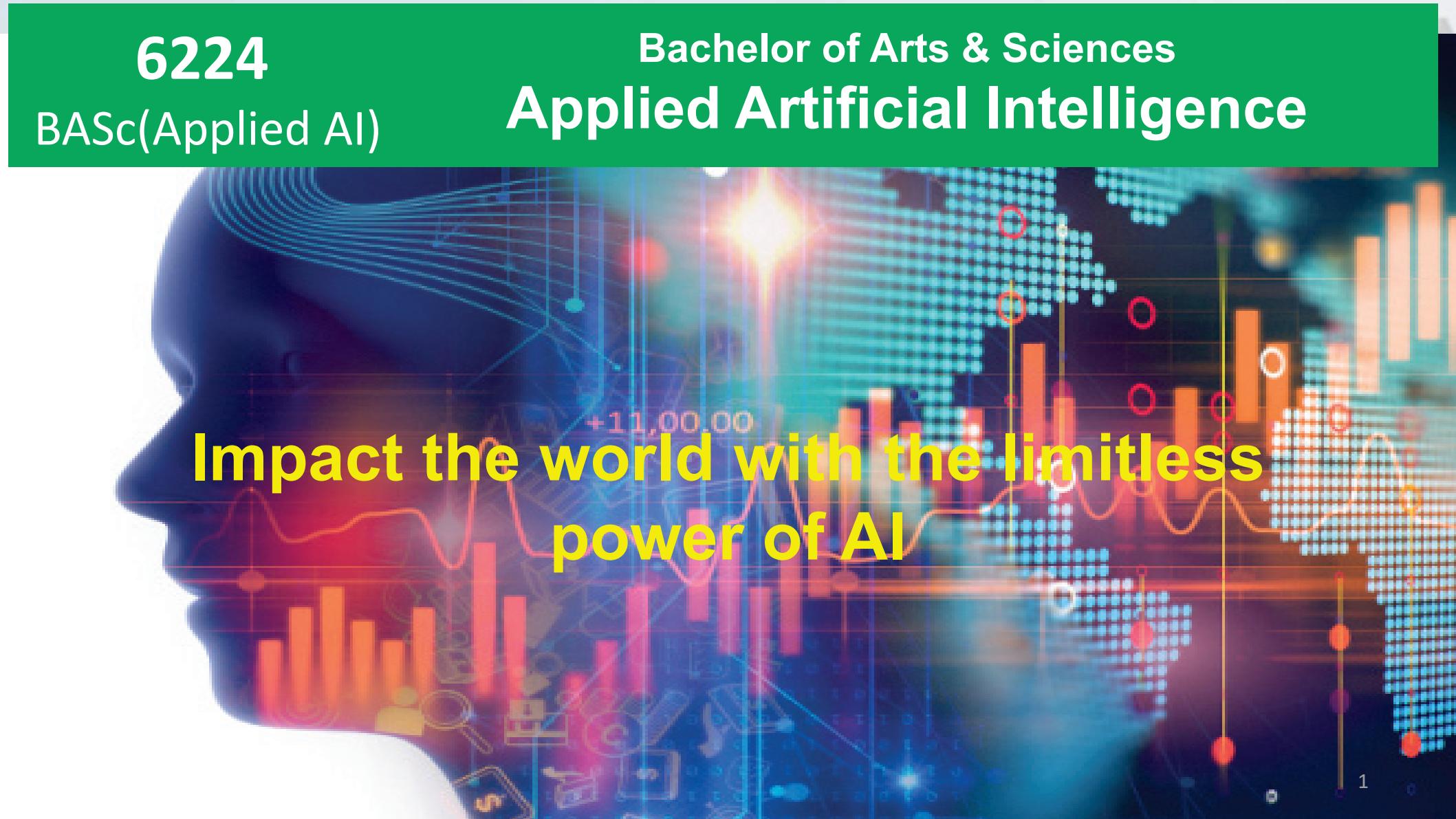


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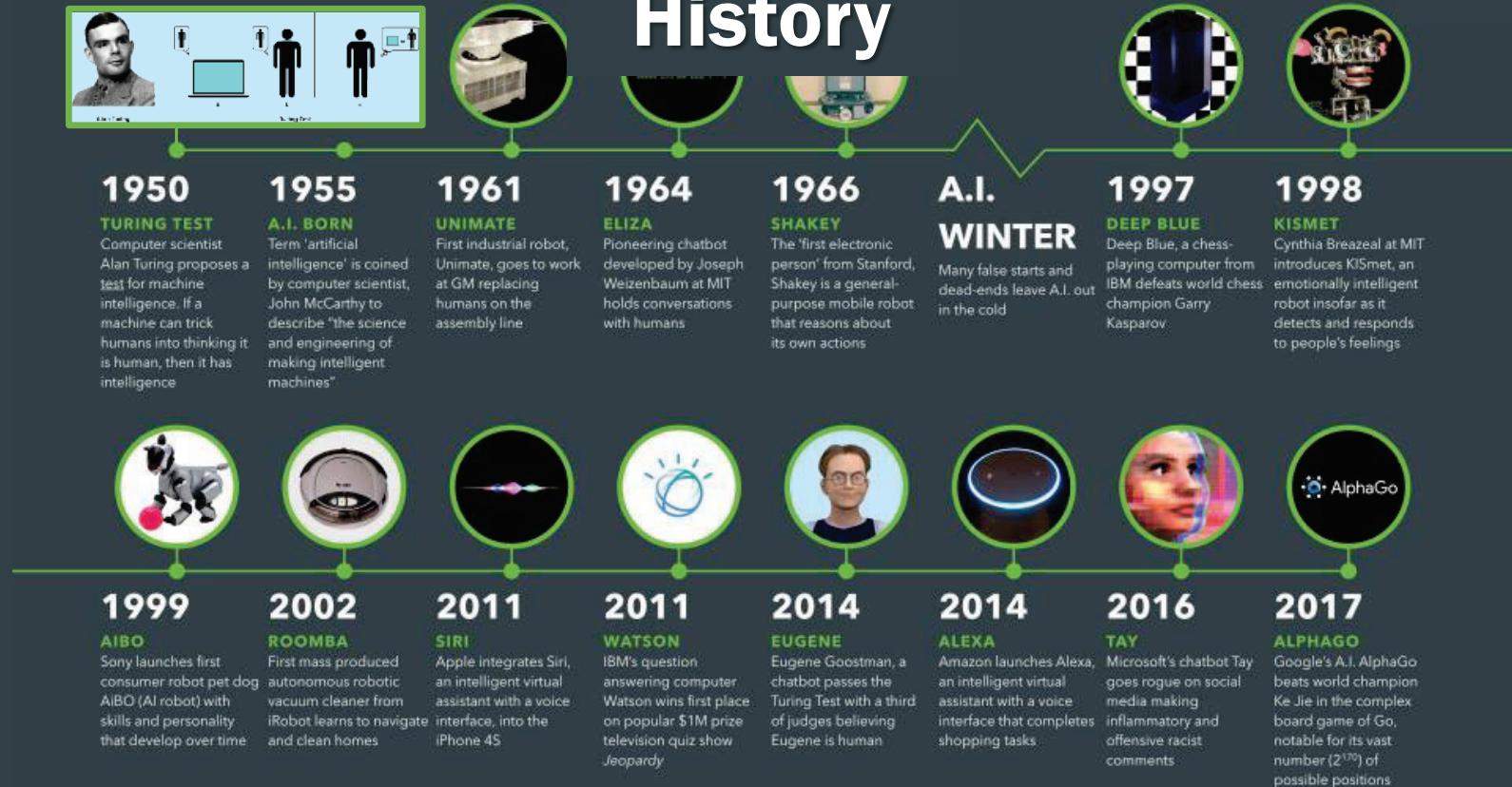
BASc(Applied AI)

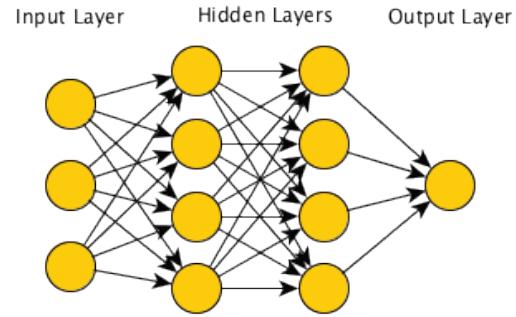
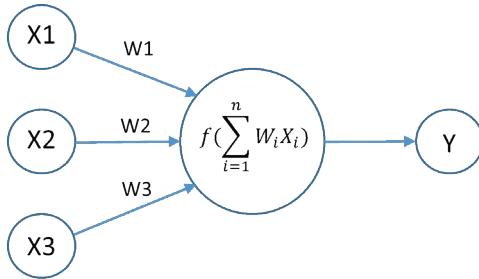
Bachelor of Arts & Sciences
Applied Artificial Intelligence



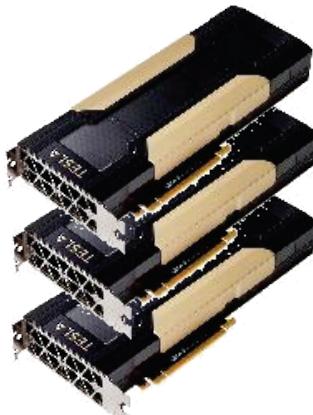
Impact the world with the limitless power of AI

AI History





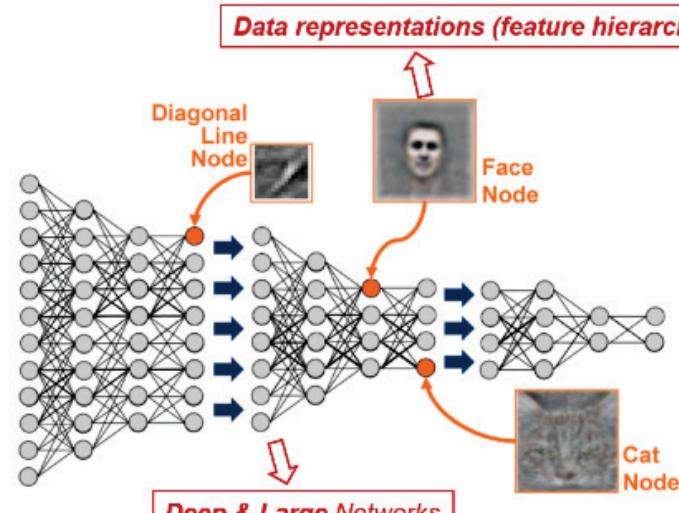
Neural
Network



GPU V100



Lots of data



Deep Learning



Bachelor of Arts and Sciences (Applied AI)



Interdisciplinary programme co-offered by:



THE UNIVERSITY OF HONG KONG
faculty of architecture



Faculty of Engineering
THE UNIVERSITY OF HONG KONG



New option for elite students

Formal training to elite students who wish to join the AI profession



Interdisciplinary training

Provides a wide range of courses in mathematics, statistics, computer science, geography, psychology, and urban studies



Department of 統計及精算學系
Statistics & Actuarial Science



DEPARTMENT OF MATHEMATICS
The University of Hong Kong



THE UNIVERSITY OF HONG KONG
DEPARTMENT OF
COMPUTER SCIENCE



About HKU

2022

#22 World	#5 Asia	#1 HK	HKU
#47 World	#6 Asia	#1 HK	Statistics & OR
#56 World	#12 Asia	#3 HK	Mathematics
#39 World	#9 Asia	#3 HK	Computer Science
#14 World	#4 Asia	#1 HK	Architecture
#10 World	#2 Asia	#1 HK	Geography
#33 World	#3 Asia	#1 HK	Psychology

Big data optimization

Scientific computation

Risk management

Game theory

Financial and actuarial applications

Operational research

High-dimensional data analysis

Statistical learning

Time series forecasting

Speech/NLP/Text analytics

Machine/Deep learning
Transportation
Computer vision

Robotics

Information security
DNA profiling, forensic statistics

GIS

Neuropsychology



Bachelor of Arts and Sciences (Applied AI)

- 💡 Highlights **diverse AI applications** with a philosophical and ethical dimension
 - ❖ develops intellectual capacity for meeting new challenges
- 💡 Nurtures to **transfer interdisciplinary scientific knowledge** into integrated applications and technological innovations
- 💡 Emphasizes **problem-based learning**
- 💡 Delivers **both fundamental and practical knowledge** to fit into different career settings





Bachelor of Arts and Sciences (Applied AI)

AI Applications



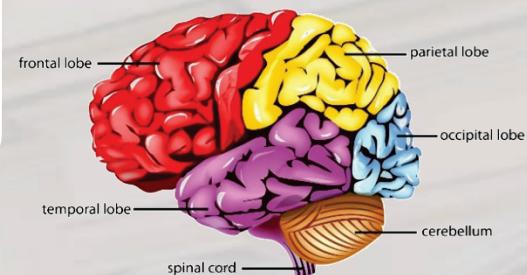
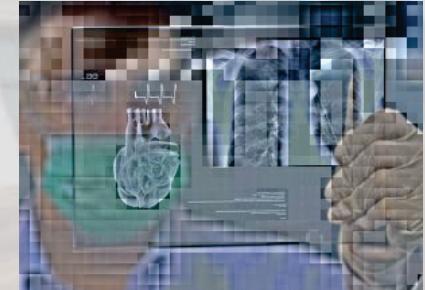
AI in Business and Finance

AI in Medicine

AI
Technology

AI in Smart City

AI in Neurocognitive Science





AI Technology



Computer
Vision



Natural
Language
Processing



High-
performance
Computing



Robotics



AI in Medicine



HKU statisticians develop online diagnostic system for screening COVID-19 with AI technologies based on chest CT dataset

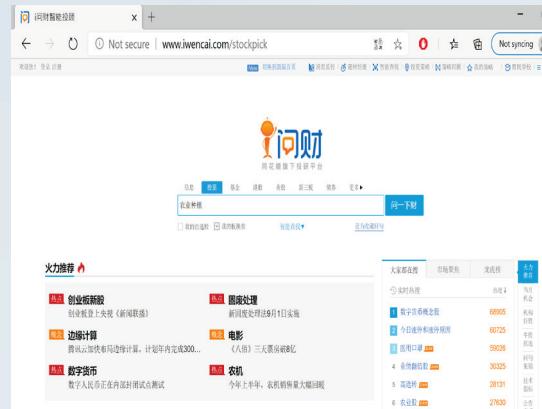
02 Jun 2020

[Download All Photos](#)





AI in Business and Finance



Robot advisors



Automatic trading

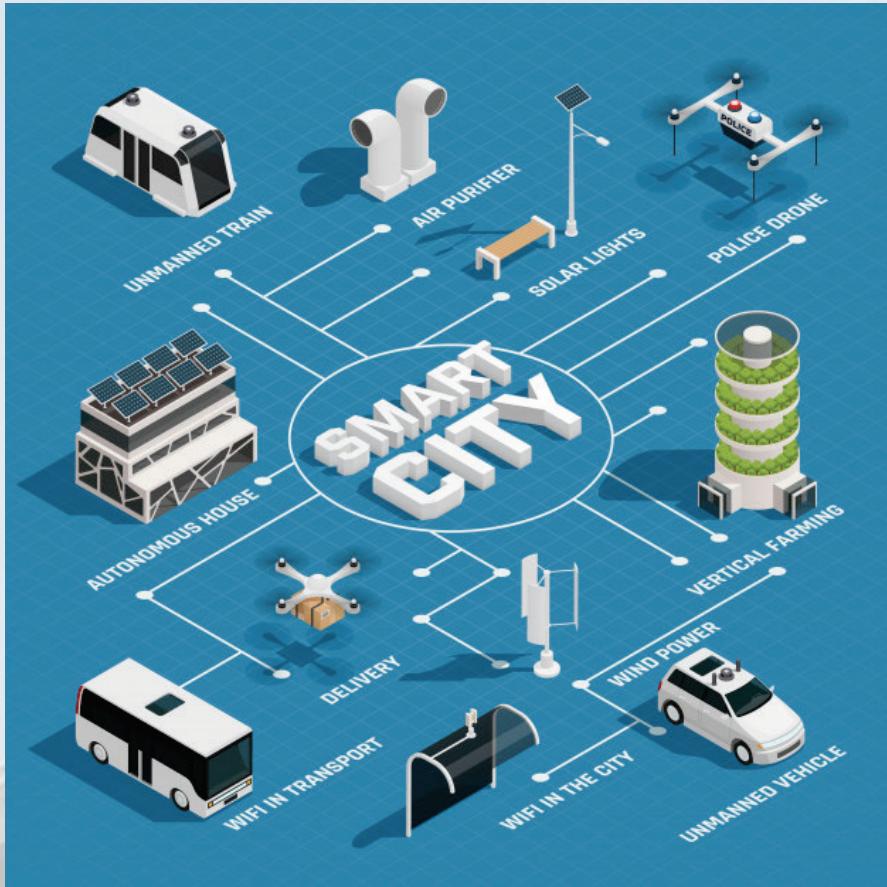


Financial data analytics

Final year projects directed by researchers from the Artificial Intelligence Research Group of the Faculty of Business and Economics, e.g.
Prediction of Stock Returns from Social Media Using Deep Learning



AI in Smart City

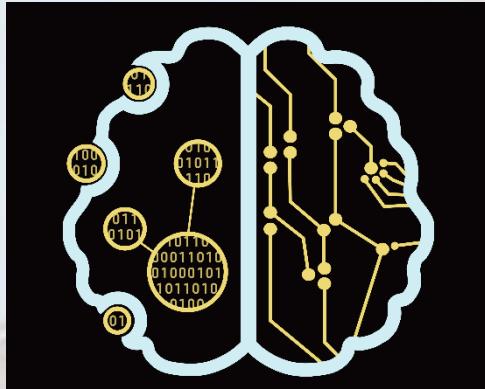
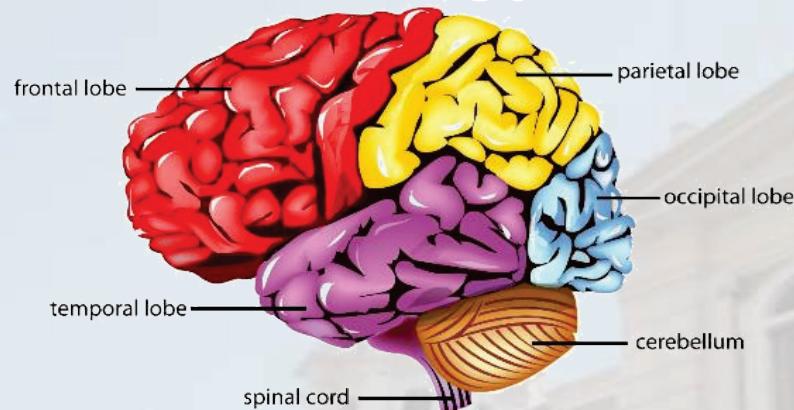


Students may work with researchers from the Institute of Transport Studies¹ of HKU



AI in Neurocognitive Science

Understanding your brain



Cognition

Memory

Behaviour

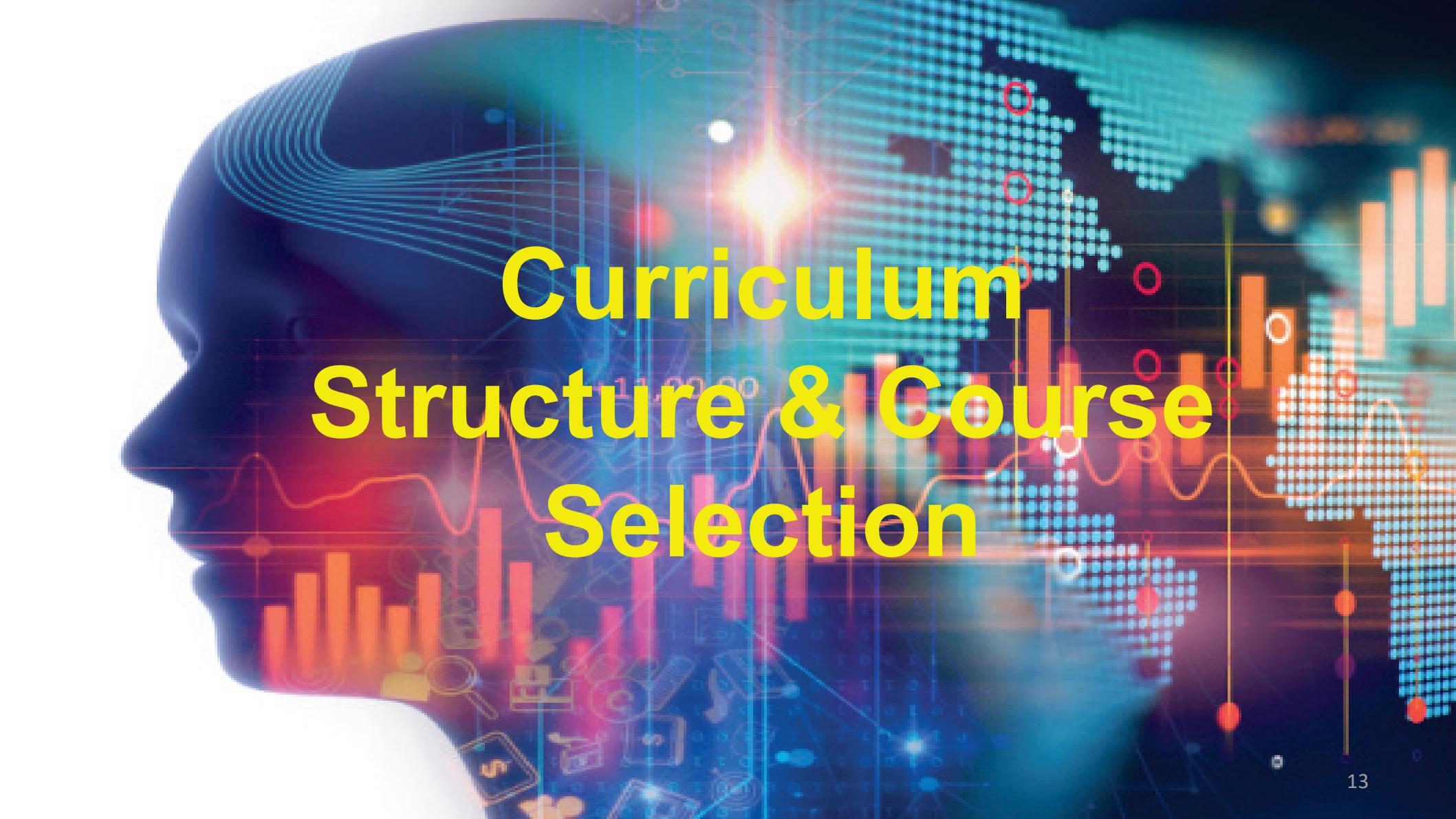
Perception

Brian disorder

Parkinson's disease

Alzheimer's disease

Students may work with researchers from Department of Psychology and Faculty of Education.



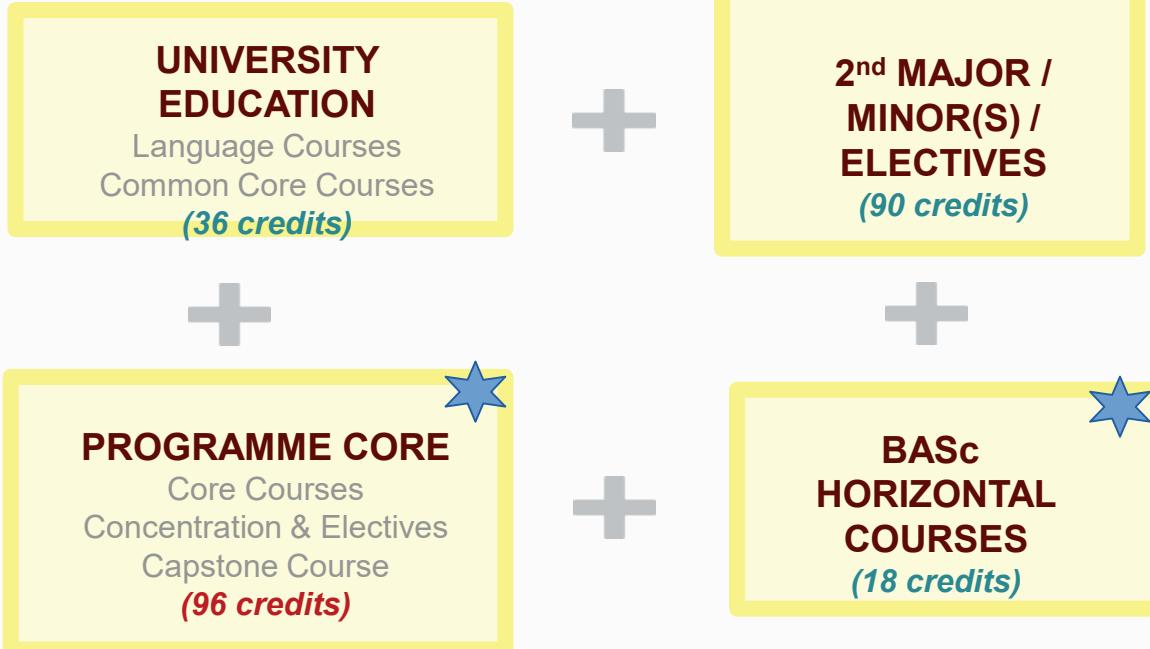
Curriculum Structure & Course Selection



General Structure



Forty 6-credit courses spanning over 4 years of full-time study
(240 Credits)



Remarks:

- Programme Core: MUST take
- 1 course = 6 credits
- 1 semester = 30 credits = 5 courses
- Variations are possible (+ - credits)
- Total number of credits cannot exceed 288 credits



Programme Core Courses *

(96 credits)



BASc(AppliedAI) Curriculum*

Core Courses (66 credits)

APAI1001	Artificial intelligence: foundation, philosophy and ethics
COMP1117	Computer programming
COMP2119	Introduction to data structures & algorithms
COMP2120	Computer organization
COMP3340	Applied deep learning
MATH1013	University mathematics II
MATH2014	Multivariate calculus and linear algebra
MATH3904	Introduction to optimization
STAT2601	Probability and statistics I
STAT2602	Probability and statistics II
STAT3612	Statistical machine learning

Capstone Requirement (6 credits)

At least 6 credits selected from the following courses:
 (If students take the 12-credit "Applied AI project",
 they do not need to take a 6-credit elective course.)

APAI3799	Directed studies in applied AI
APAI4766	Applied AI internship
APAI4798	Applied AI project (12-credit)



Concentration (24 credits)

(For fulfilling the requirement of a concentration, students should choose at least 18 credits, with at least 6 credits of which should be at advanced level, from the corresponding list.)

AI technology

COMP3271	Computer graphics
COMP3356	Robotics
APAI3010	Image processing and computer vision
APAI4011	Natural language processing
APAI4012	High-performance computing
APAI4099	Special topics of applied AI

AI in smart city

GEOG2090	Introduction to geographic information systems
GEOG3202	GIS in environmental studies
GEOG3420	Transport and society
URBS1003	Theories and global trends in urban development
URBS1005	Urban problems, interventions and design thinking
APAI4099	Special topics of applied AI

AI in neurocognitive science

PSYC1001	Introduction to psychology
PSYC2051	Perception
PSYC2066	Foundations of cognitive science
APAI4099	Special topics of applied AI

Other elective courses

COMP3250	Design and analysis of algorithms
COMP3278	Introduction to database management systems
MATH3601	Numerical analysis
MATH3911	Game theory and strategy
MATH3943	Network models in operations research
STAT3600	Linear statistical analysis
STAT3622	Data visualization
STAT4602	Multivariate data analysis

*The curriculum and course offering are subject to changes. Each course is 6-credit bearing unless otherwise stated.

BASc HORIZONTAL COURSES

(18 credits)



- ★ DESN9001 Leadership Beyond Borders
- ★ BASC9001 Foundations of Human Knowledge
- ★ STAT1005 Foundation of Data Science

- Multidisciplinary training in leadership, design thinking
- Introduction to foundations of human knowledge and data science
- Networking with fellow students from other BASc programmes



AI

SDS

BASC

D+

FT

GHD



Suggested Study Plan



Suggested / Example Structure of BASc(AppliedAI) Curriculum¹ (for students admitted in 2022)

Year	I		II		III		IV	
Semester	One	Two	One	Two	One	Two	One	Two
Disciplinary Core	APAI1001 Artificial Intelligence: Foundation, Philosophy and Ethics	MATH2014 Multivariable Calculus and Linear Algebra	COMP2119 Introduction to Data Structures and Algorithms	COMP2120 Computer Organization	MATH3904 Introduction to Optimization			
	COMP1117 Computer Programming	STAT2601 Probability and Statistics I	STAT2602 Probability and Statistics II		STAT3612 Statistical Machine Learning			
	MATH1013 University Mathematics II				COMP3340 Applied Deep Learning			
Other		COMP2113 Programming Technologies (Pre-requisite of COMP2119)			STAT3600⁴ Linear Statistical Analysis (Co-requisite/ Pre-requisite of STAT3612) (available in both semesters)			
BASc Core (in purple font) and Disciplinary Elective (in deep blue font)	STAT1005 Essential skills for undergraduates: foundations of data science (admission: 2020 and thereafter)	BASC9001 Foundations of Human Knowledge	DESN9002 Sustainable Leadership (admission: 2020 and thereafter)		At least 24 credits from the following courses in Lists A1-5 and B (For fulfilling the requirement of a concentration, students should choose at least 18 credits, with at least 6 credits of which should be at advanced-level, from the corresponding list):			
					<u>AI Technology</u> (List A1) COMP3271 Computer Graphics COMP3356 Robotics APAI3010 Image Processing and Computer Vision APAI4011 Natural Language Processing APAI4012 High-Performance Computing APAI4099 Special Topics of Applied AI			
					<u>AI in Business and Finance</u> (List A2) COMP3320 Electronic Commerce Technology MATH3901 Operations Research I MATH3906 Financial Calculus STAT3613 Marketing Analytics STAT4601 Time Series Analysis APAI4099 Special Topics of Applied AI			
					<u>AI in Medicine</u> (List A3)			



Information & supports



Bachelor of Arts and Sciences (Applied AI)

Career prospects

The programme connects the exploding demand of the AI market in diverse areas, such as:

- Science & technology
- Environmental protection
- Medical informatics
- Healthcare
- Business
- Banking & finance
- Urban development
- Neurocognitive science



Career Support and Activities

- Centre of Development and Resources for Students (CEDARS)
(www.cedars.hku.hk)
- Departmental Internship/Job Online-application System
- Career Advising Programme (CAP)
 - ☺ Professional Preparation Programme (PPP)
 - ☺ Individual consultation on cover letter, CV and interview skills
 - ☺ Corporate Mentorship Programme (CMP)
 - ☺ Market information workshop
 - ☺ Firm visits and alumni sharing
 - ☺ SAAS Career Fair





Support for internships

Partner with Industrial Leaders

(in year 3 or year 4)





Admissions Requirements

6224

BASc(AppliedAI)

Bachelor of Arts and Sciences (Applied AI)

Admissions Requirements – JUPAS applicants

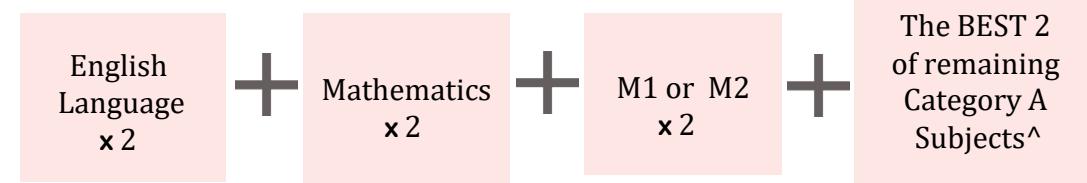
Minimum Programme Entrance Requirements:

 EN	 Chinese	 Mathematics	 Liberal Studies	 Elective subjects	 Extended Module 1 or 2 in Mathematics
English Language	Chinese Language	Mathematics	Liberal Studies	Elective subjects	Extended Module 1 or 2 in Mathematics
e Level 4*	e Level 3	Level 4	Level 2	Level 3 (one subject)	Level 4

*Candidates with level 4 in English Language, if admitted, will be required to take 6 additional credits in Core University English to complete their degree studies

**2023
Admissions Quota
15**

Selection principle: BEST 5



[^] Subject Weighting(s): 1.5 x Biology / Chemistry / Physics / Combined Science / Integrated Science / Information and Communication Technology

2022 JUPAS Admissions Score:

Total score of Best 5 with M1/M2

28 ~ 38

HKDSE 'level to score' conversion

Category A Core and Elective Subjects and Extended Module 1 or Module 2 of Mathematics							
Level	1	2	3	4	5	5*	5**
Score	1	2	3	4	5.5	7	8.5

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BASc(AppliedAI)

Bachelor of Arts and Sciences (Applied AI)

Science Entrance Scholarship



HKDSE Examination Results in one-sitting (total score in best 5 subjects in Category A or Extended Module 1 or Module 2 of Mathematics)	Scholarship Amount (HK\$)
Score = 42.5	\$70,000
Score ≥ 41	\$60,000
Score ≥ 39	\$50,000
Score ≥ 37	\$40,000
Score ≥ 35	\$20,000
Score < 35 with 5** in at least 2 subjects from Biology/ Chemistry/ Physics/ Combined Science/ Mathematics/ M1/ M2	\$10,000

Bachelor of Arts and Sciences (Applied AI)

6224

BASc(AppliedAI)

2022 Admissions Statistics- Non-JUPAS

GCEAL

Lowest admissions score
3A*

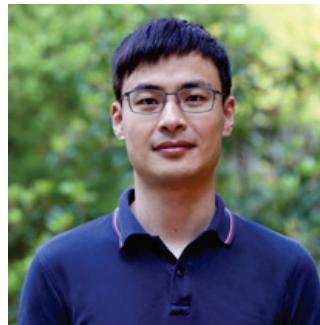
IB

Lowest admissions score
39



Who's who ?

→ Programme Co-Directors



Dr. Lequan Yu
(Statistics, RRS 226)



Prof. Patrick NG
(Mathematics, RRS 424)



Prof. Yizhou YU
CS Coordinator

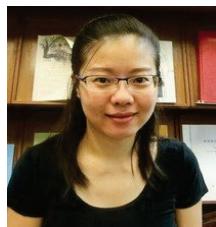
→ Course Selection / Internship Advisers



Dr. Kai HAN
(RRS 220)



Dr. Adela LAU
(RRS 226)



Dr. Zheng QU
(RRS 419)

Administration

General Office (RRS, 3rd floor)
Department of Statistics & Actuarial Science