6224BASc(Applied AI)

Bachelor of Arts & Sciences in Applied Artificial Intelligence











Bachelor of Arts and Sciences – Applied Artificial Intelligence BASc (AppliedAI)

- Department of Statistics and Actuarial Science;
- Department of Mathematics
- Faculty of Science (6 Departments/School)
- The University of Hong Kong (10 Faculties)







First Year Experience



http://wp2.cedars.hku.hk/fy



hku.hk/science → www.scifac.hku.hk

Current Students (About the Programmes) Useful Resources (Handbooks





About Us Prospective Students Current Students Research Knowledge Exchange Public Engagement Alumni News Events

Undergraduate Programmes

Home > Current Students > Undergraduate Programmes >

UNDERGRADUATE PR

Student Experiential Learning and Enrichment Opportunities
Useful Resources
Articulation Pathways

About the programmes A



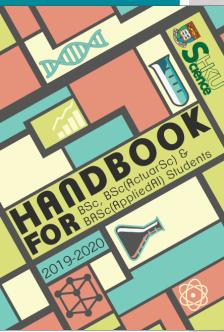
Bachelor of Science



Bachelor of Science (Actuarial Science)

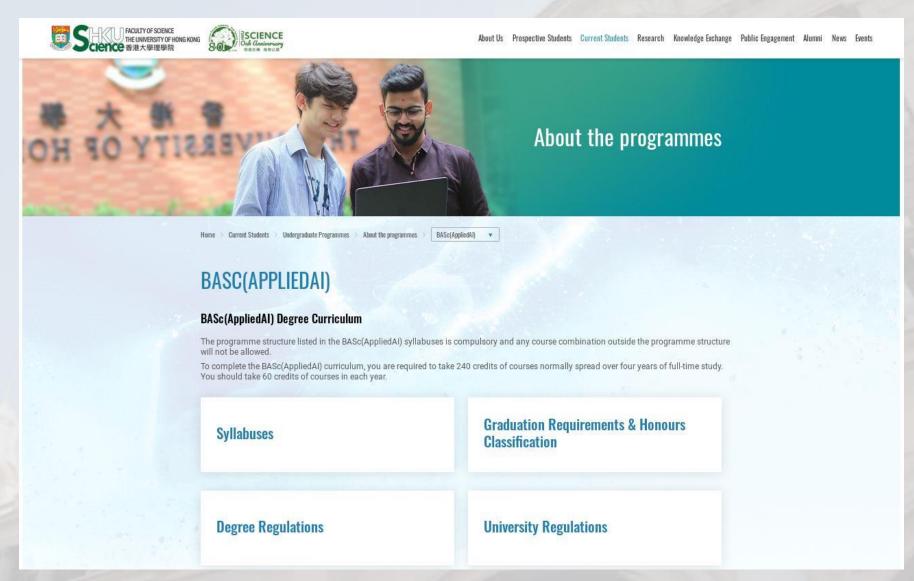


Bachelor of Arts and Sciences (Applied Artificial Intelligence)





hku.hk/science → www.scifac.hku.hk



6224

Academic Dates Terminology



HKU: 1st Semester, 2nd Semester, Summer Semester

	_		_	
	Course	CO	loction	noriod
_	Coul 3c	26	IECLIUII	Dellou

- Suspension period
- Add/drop period
- Reading week
- Revision period
- Assessment period

Lectures and Tutorials/Example Classes

Important Academic Dates 2019-20

From Academic Advising Office (AAO):

http://aao.hku.hk/sy3/plan-of-study/important-academic-dates/hellsur/

	SUN	MON	TUE	WED	THUR	FRI	SAT	_
	1	2	3	4	5	6	7	
	8	9	10	11	12	13	[14]	
SEP-19	15	16	17	18	19	20	21	
	22	23	24	25	26	27	28	
	29	30						1
	l		[1]	2	3	4	5	
	6	[7]	8	9	10	- 11	12	
OCT-19	13	14	15	16	17	18	19	
	20	21	22	23	24	25	26	
	27	28	29	30	31			1
	l					1	2	
	3	4	5	6	7	8	9	
NOV-19	10	11	12	13	14	15	16	
	17	18	19	20	21	22	23	
	24	25	26	27	28	29	30	4
	1	2	3	4	5	6	7	
	8	9	10	11	12	13	14	П
DEC-19	15	16	17	18	19	20	21	ı
	22	23	(24)	[25]	[26]	27	28	ı
	29	30	<31>					1
				[1]	2	3	4	ı
	5	6	7	8	9	10	11	ı
JAN-20	12	13	14	15	16	17	18	
	19	20	21	22	23	<24>	[25]	ı
	26	[27]	[28]	29	(30)	(31)		┚
		_	_	_		_	1	1
	2	3	4	5	6	7	8	ı
FEB-20	9	10	11	12	13	14	15	
	16	17	18	19	20	21	22	1
	23	24	25	26	27	28	29	1
	1	2	3	4	5	6	7	
	8	9	10	- 11	12	13	14	ı
MAR-20	15	(16)	17	18	19	20	21	ı
	22	23	24	25	26	27	28	ı
	29	30	31					4
	l			1	2	3	[4]	1
	5	6	7	8	9	[10]	[11]	1
APR-20	12	[13]	14	15	16	17	18	
	19	20	21	22	23	24	25	
	26	27	28	29	[30]			4
	Ы 🕳		10	40	_20	ريار	2	
മവ	TI 🕰	4	26	19	_ 71	8	()9 r	M

nding/ Field Trip Week: Oct 14 - 19, 2019	7(Re
	1
at Day of Teaching: Nov 30, 2019	
vision Period: Dec 2 - 6, 2019 sessment Period: Dec 7 - 23, 2019	14(Re
	Br
COND SEMESTER; JAN 20 - MAY 30, 2020 st Day of Teaching: Jan 20, 2020 ss Suspension Period for the Lunar New Year: 25 - 31, 2020	Br Br
25 - 31, 2020	
ading/Field Trip Week: Mar 9 - 14, 2020	7(Re
g Day of Teaching: May 2, 2020	1 1 1
Day of Teaching: May 2, 2020	

irst Day of Teaching: Sep 2, 2019

OPTIONAL SUMMER SEMESTER

First Semester: 11 Mondays and Tuesdays, 12 Wednesdays, Thursdays and Fridays, 11 Saturdays Second Semester: 11 Mondays, 13 Tuesdays and Wednesdays, 12 Thursdays, 10.5 Fridays, 11 Saturday



2019-2020 First Semester



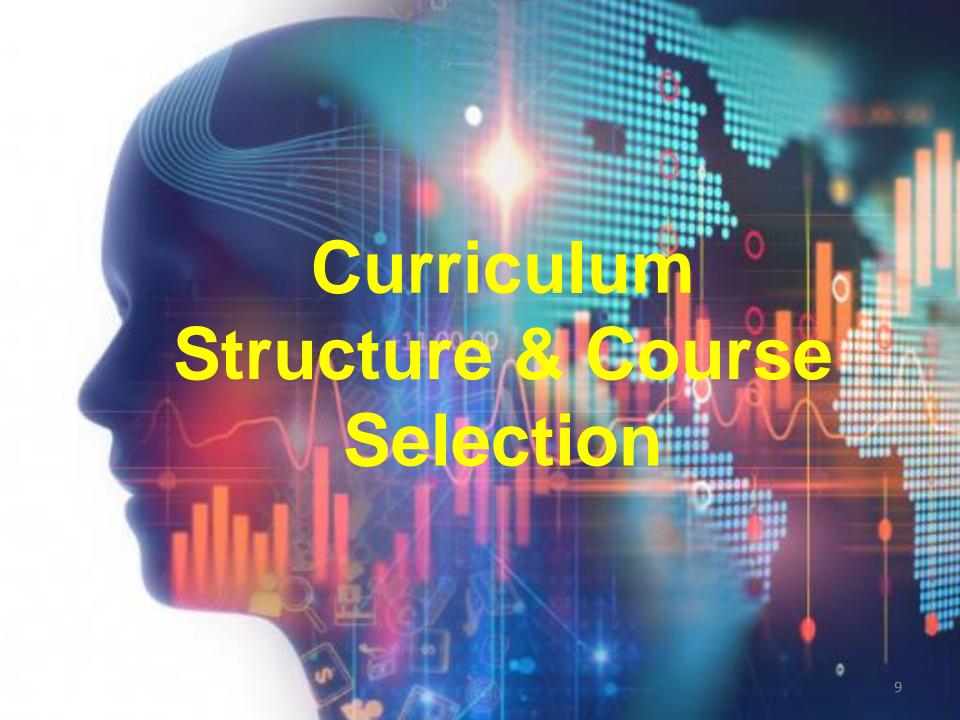


Teaching period

Teaching Weeks 2019-20 for Undergraduate and Taught Postgraduate Students

	SUN	MON	TUE	WED	THUR	FRI	SAT
	1	2	3	4	5	6	7
CPP 40	8	9	10	11	12	13	[14]
SEP-19	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30					
			[1]	2	3	4	5
	6	[7]	8	9	10	11	12
OCT-19	13	14				18	19
	20	21	22	23	24	25	26
	27	28	29	30	31		
						1	2
	3	4	5	6	7	8	9
NOV-19	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
DEC-19	15	16	17	18	19	20	21
	22	23	(24)	[25]	[26]	27	28
	29	30	<31>				

FIRST SEMESTER: SEP 2 - DEC 23, 2019	Week
First Day of Teaching: Sep 2, 2019	1
	2
Tutorial classes usually	3
start from the 2 nd week of teaching	4
	5
(Follow instructions of individual courses)	
	6
Reading/ Field Trip Week: Oct 14 - 19, 2019 7(Reading)
	8
	9
	10
	11
	12
Last Day of Teaching: Nov 30, 2019	13
	(Revision)
Assessment Period: Dec 7 - 23, 2019	1
	2
	3
	Break





and









FACULTY OF SCIENCE THE UNIVERSITY OF HONG KONG 香港大學理學院





Faculty of Engineering THE UNIVERSITY OF HONG KONG





THE UNIVERSITY OF HONG KONG faculty of architecture







香港大學社會科學學院



New option for elite students

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



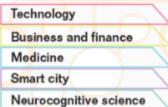
Interdisciplinary training

Provides a wide range of courses in mathematics, statistics, computer science,

geography, psychology, and urban studies



Featured concentrations:





General Structure





Forty 6-credit courses spanning over 4 years of full-time study

(240 Credits)

UNIVERSITY EDUCATION

Language Courses Common Core Courses (36 credits)



BASc HORIZONTAL COURSES

(18 credits)



PROGRAMME CORE

Core Courses
Concentration & Electives
Capstone Course
(96 credits)



2nd MAJOR / MINOR(S) / ELECTIVES

(90 credits)

Remarks:

- Core: MUST take
- 1 course = 6 credits
- 240 credits = graduation
- Study 8 semesters

(include exchange, exclude internship)

- 1 semester = 30 credits = 5 courses
- 1 year = 60 credits = 10 courses
- > 36 or < 24 credits in one semester
- → need special approval, not allowed in first year
- Total number of credits cannot exceed 288 credits





Programme Core Courses (96 credits)



	Introductory Level Courses (48 c	redits):						
Core Courses (66 credits)	O Foundations of artificial intellige O Computer programming O Computer organization O Data structures and algorithms Advanced Level Courses (18 cree O Deep learning O Introduction to optimization O Statistical machine learning	o Computer programming o Computer organization o Computer organization o Data structures and algorithms O Probability and statistics II Advanced Level Courses (18 credits): O Deep learning o Introduction to optimization						
Elective Courses (24 credits)	AI Technology (18+ credits): O Computer graphics O Robotics O Natural language processing O Image processing and computer vision O High-performance computing O Special topics of applied AI	AI in Business and Finance (18+ credits): O Marketing analytics O Operation research I O Financial calculus O Time series analysis O E-commerce technology O Special topics of applied AI	AI in Medicine (18+ credits): O Survival analysis O Modern biostatistics O Bayesian learning O Omics data analysis O Medical image analysis O Special topics of applied AI	AI in Smart City (18+ credits): O Urban & regional development I O Urban & regional development II O Introduction to geographic information systems O Environmental GIS O Transport and society O Special topics of applied AI	AI in Neurocognitive Science (18+ credits): O Introduction to psychology O Perception O Foundations of cognitive science O Foundations of neuroscience O Human neuropsychology O Special topics of applied AI			
	Other Elective Courses: o Design and analysis of algorith o Database management system (o Computer and network security	CS) O Game theory a	lysis (MATH) nd strategy (MATH) ls in operations research (MATH)	Data visualization (SAAS) Linear modeling (SAAS) Multivariate modeling (SAAS))			
Capstone Requirement (6 credits)	Directed studies/project/internship	in Applied AI						





Suggested Study Plan



Year	0	ne	Т	wo	Т	hree	Fo	our
Semester	One	Two	One	Two	One	Two	One	Two
Disciplinary Core	APAI1001 Artificial Intelligence: Foundation, Philosophy and Ethics COMP1117 Computer Programming MATH1013 University Mathematics II	MATH2014 Multivariable Calculus and Linear Algebra STAT2601 Probability and Statistics I	COMP2119 Introduction to Data Structures and Algorithms STAT2602 Probability and Statistics II	COMP2120 Computer Organization	APAI3001 Deep Learning MATH3904 Introduction to Optimization STAT3612 Statistical Machine Learning			
BASc Core (in purple font) and Disciplinary Elective	BASC9001 Foundations of Hun (to be confirmed) DESN9001 Leadership Beyond (to be confirmed)		APAI9001 Basic Programming Software Skills (to be confirmed)	and Computer	(For fulfilling the recredits, with at least corresponding list): AI Technology (ICOMP3721 COMP3356 APAI3010 APAI4011 APAI4012 APAI4099	List A1) Computer Graphics Robotics Image Processing an Natural Language Pr High-Performance C Special Topics of Ap ad Finance (List A2) Electronic Commerce Financial Calculus Operations Research Marketing Analytics Time Series Analysis Special Topics of Ap	ntration, students shou ould be at advanced-le d Computer Vision occessing omputing oplied AI e Technology	ild choose at least 18



Suggested Study Plan



AppliedAl

THE UNIVERSITY OF HONG KONG

Suggested BASc(AppliedAl) First Year Timetable

2019-20 Semester 1	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:30 – 9:20 am	APAI1001		APAI1001			
9:30 – 10:20 am	MATH1013-A		APAI1001	MATH1013-A		Camanan Cara
10:30 – 11:20 am	MATH1013-A					Common Core
11:30 – 12:20 pm						
12:30 – 1:20 pm						
1:30 – 2:20 pm						
2:30 – 3:20 pm			0			
3:30 – 4:20 pm	COMP1117-A		Common Core	COMP1117-A		
4:30 – 5:20 pm	COMP1117-A			MATH1013-B		
5:30 – 6:20 pm	MATH1013-B			MATH1013-B		

Other courses to be taken:

 BASc(AppliedAI) students are required to complete 18 credits of BASc Core Courses as part of their graduation requirement. One of the required BASc Core Course to be taken in 1st semester is DESN9001 Leadership Beyond Borders (course code and title to be confirmed), pending the Senate's approval. More details will be announced in due course.

Remarks:

- COMP1117: A no. of places are reserved in subclass A for BASc(AppliedAI) students. See the timeslots above.
- MATH1013: A no. of places are reserved in subclasses A and B for BASc(AppliedAI) students. See the timeslots above.

2019-20 Semester 2	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:30 – 9:20 am						
9:30 – 10:20 am						Common Core
10:30 – 11:20 am		MATH2014-B				Common Core
11:30 – 12:20 pm		MATH2014-B			MATH2014-B	
12:30 – 1:20 pm					COMP2113-C	





BASc Horizontal Courses

DESN9001 Leadership Beyond Borders (6 credits)

Part 1 06-08 September 2019

Becoming leaders: Kick-off event + High Table Dinner

Part 2 14-08 October 2019

Global Leader Experience: Common Purpose

Part 3 November & December 2019

Leadership through Design

Thinking

BASC9001 Foundations of Human Knowledge (6 credits)

This course opens up an interdisciplinary discourse about knowledge building and integration in arts and humanities, social sciences, and sciences. It consists of three parts:

(a)

Philosophical and historical perspectives of human knowledge

(b)

From knowledge to judgement

(c)

Knowledge Sharing

APAI9001 Basic Programming & Computer Skills (6 credits)

This course includes content from the online Microsoft Professional Program (MPP). BASc students will take one of the following tracks:

Data Science Artificial Intelligenc e

Internet of Things

Students are expected to learn data analysis, basic programming and computer software skills, which will be useful for tackling interdisciplinary problems now and in the future.



Special Approval



- Prerequisite not met
 - Course Approval Form to Department
- Time clash
 - Course Approval Form to Department
 - Not approved unless
 - under very special circumstances

Office by the december) I. PERSONAL PARTICI	II.ARS					
University No:			Name :	Registr in SLOCK Letters	(Chinese, Electrocriste
Programme :			Intended Major & Minor :			
Course Year (2017-2018): 1 /	2/3/4/5/6*		(if applicable)	Minor in		
Tel No. :	Metalo	(House)	(Hall & Room No.)	Email address :		
* Please delete as appropriate						
	E SPECIAL APPROVA ses which require special q Credit Sem Clas	pproval)	Course Title	Rasers	Approved and signed by Course Selection Advisor	Name (IN BLOCK LETTER) Course Selection Advisor of the department/school offin
(Only list out those cour	rses which require special a	pproval)	Course Title	Fasco	Approved and signed by Course Substition Advisor	Course Selection Adviser
(Only list out those cour	rses which require special a	pproval)	Course Title	Famin	Approved and rigand by Crosses Salestine Advisor	Course Selection Adviser

- Taking course load deviating from normal load
 (> 36 or < 24 credits in 1 semester, or > 72 credits in 1 year)
 - Application form to Department
 - Not for first year students
- All the forms are downloadable from the Faculty website:

Current Students → [Undergraduate Programmes] Useful Resources → Forms



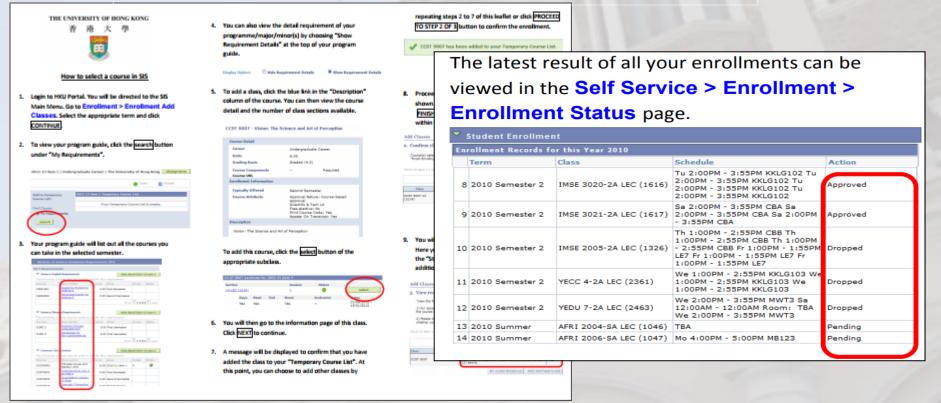


Course selection reminder



A step-by-step manual for course selection in SIS

https://aal.hku.hk/studyabroad/attachment/upload/Quick_Guide_on_Course_Selection_and_Enrollment.pdf





Exchange Credit Transfer

- Faculty of Science: Course Equivalence Database
 - https://webapp.science.hku.hk/student/servlet/course_equiv

For credit transfer reference:

University

18. Canada - University of Toronto

Canada - University of Toronto

ACT349H1

ACT370H1

ACT451H1

ACT455H1

ACT460H1

ACT466H1

ACT470H1

Students on exchange may take courses regarded as equivalent to some HKU courses to fulfill the degree requirement.

					S35/415
[A2 W]	THE U	NIVERSITY OF HONG KONG FACULTY OF SCIENCE		For 4 -Ye	ear Curriculum
The state of the s	Application for Leave				
	•	c) Outgoing Exchange/	-		
	(Acade	emic Year :	<u>'</u>		
IMPORTANT NOTES: 1. This form should be submitted to the Fac	ulty Office, with all supporting documents attached, at least 1 m	south before the date of departure.			
	Department concerned, would consider your application for tran		nditional upon your successful completion of th	ne approved courses.	
the end of the add/drop period at your ho approval by the Dean. Any changes in cr	st of courses for credit transfer and the applied equivalent cours st institution for any change of your applied list of courses [inci edit transfer application after 1 month of the commencement of	luding applying new course(s) for credit f exchange/visiting semester will NOT be	transfer, dropping applied course(s) and change e considered.	e of equivalent course(s) at HKU	U for applied course(s)] for
 Credits transferred are not included in the 	e calculation of GPA. Only the examination results obtained fro	om this University will be used to determ	ine the honours classification. The Board meet	s in late June each year to determ	nine honours classification.
Part I: General Information					
	() Programme of study:				
	(Major 1)				
Contact Telephone Number :	Email address :	Period of exch	hange/visiting :[Period	of leave of absence to be applied:	(MM/YY - MM/YY)]
Host Institution and Country :			Duration : 1st semester / 2		emester / 1 year *
I wish to apply for leave of abset I would like to apply for Part III: Course information of b (A) The following details are required for th Duration of the undergraduate degree Number of teaching weeks: Approximate number of contact hours	e Faculty to process your application for transfer of credi	ander of credits to be taken at the host e. (Go to Part III) its. You may need to contact the ho er of semesters/terms in each acaden ard semester/term study load (credit/ ine of course add/drop period :	t institution. Institution for such details. Institution for such details. Start date of semester Start date of semester Expected date of ann	equired for graduation (credit nouncement of examination r	
HKU Code	HKU Credit	HKU Title			
STAT3904	6	Corporate	finance for actuaria	al science	
STAT3910	6	Financial	economics I		
STAT3906	6	Risk theor	rv I		

Advanced life contingencies

Credibility theory and loss distributions

Pension funds and pension mathematics 22

Financial economics II

COURSE EQUIVALENCE DATABASE

Partner Title

Loss Models

Corporate Finance for Actuarial Science

Advanced Topics in Actuarial Science

Credibility and Simulation

Advanced Pension Mathematics

Stochastic Methods for Actuarial Science

Financial Principles for Actuarial Science II

STAT3909

STAT3911

STAT3908

STAT3956

Partner Credit/Unit

0.5

0.5

0.5

0.5

0.5

0.5

0.5

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



<u>Internship</u>

Hello my name is
INTERN

- Usually in Year 3 or Year 4
- 6 months (e.g. January-June or July-December)
- Need to apply for leave of absence, and defer the study

Apply Internship	Apply for Leave + Apply for Enrolment	Intern	nship Period	Oral Presentation and Report		
Year 2 Sem 1	Year 2 Sem 2	,	Year 3 Sem 1	Year 3 Sem 2	Year 4 Sem 1 Year 4 Sem 2 Deferred Year 5	1
9 10 11 12	1 2 3 4 5 6	7 8 9	10 11 12	1 2 3 4 5	6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 <mark>9 10 11</mark>	12

- If you wish to use your internship to fulfill the Capstone Requirement:
 - the earliest time you can start your internship is the summer after your Year 2 study;
 - you must have passed 4 advanced disciplinary courses prior to the start of the internship;
 - submit your registration prior to the start of the internship.
- Specific regulation will be published in due course.

University Resources

- HKU Library (HKUL)
 - lib.hku.hk
- Examinations Office
 - www.exam.hku.hk
- Centre of Development and Resources for Students (CEDARS)
 - www.cedars.hku.hk
- Academic Advising Office (AAO)
 - aao.hku.hk
- University Health Service (UHS)
 - www.uhs.hku.hk
- Centre for Sports and Exercise
 - cse.hku.hk/









Scholarship



On top of numerous scholarships established by the University HKU and by the Faculty of Science, a few dedicated scholarships are being specially created for the BASc AppliedAl programme:

- Winnie S M Tang Scholarship in Applied Artificial Intelligence
 - 鄧淑明應用人工智能獎學金
- Yu Kam Tim Chan Siu Hing Prize in Artificial Intelligence and Data Science
 - 余錦添陳少卿人工智能及數據科學獎

These scholarships are awarded to year 3 students on the basis of their academic achievements during in their year 1 and year 2 studies.



Partner with Industrial Leaders



In particularly, one BASc Horizontal Core is based on the Microsoft Professional Program

HKU partners with TCL to set up

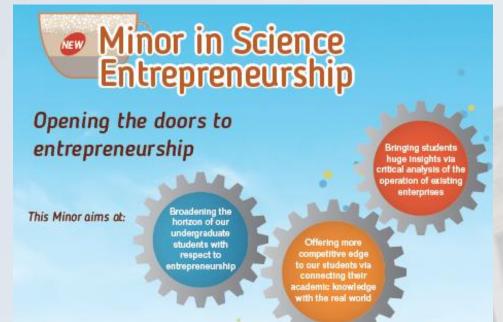
HKU-TCL Joint Research Centre for AI



Student Peer Advisers in 2019-20

- General roles
 - to offer advice in relation to academic studies to freshmen; and
 - to facilitate freshmen's smooth transition from secondary to university education
- Matching between Student Peer Advisers (SPAs) and freshmen starting from 2019-20
- You are highly encouraged to contact the following SPAs if you have any questions about your study (their contacts can be found at the Faculty's website) Let's talk to our spas!
 - Mr LEE Chun Yin (Jeffrey) (BSc Year 3)
 - Miss LUO Tianling (Joy) (BSc Year 3)
 - Mr MAK Sio Teng (Vincent) (BSc Year 3)









TSSSU@HKU
Technology Startup Support
Scheme for Universities at HKU
Up to \$1,200,000 per year



Who's who?





- → Programme Directors

 - Prof. Jeff YAO
 - (RRS 220)





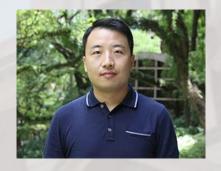
Dr.

Prof. Xiaoming YUAN (RRS 420)

→ Course



Dr. Simon CHEUNG (RRS 234)



Dr. Zhonghua LIU (RRS 226)

Prof. Francis LAU Associate Dean of Engineering

Our Computer Science





→ Administration









