# Computer Science and Engineering (JS4412 / BCSEN)

# Let's take a look at our department



Department of Computer Science and Engineering

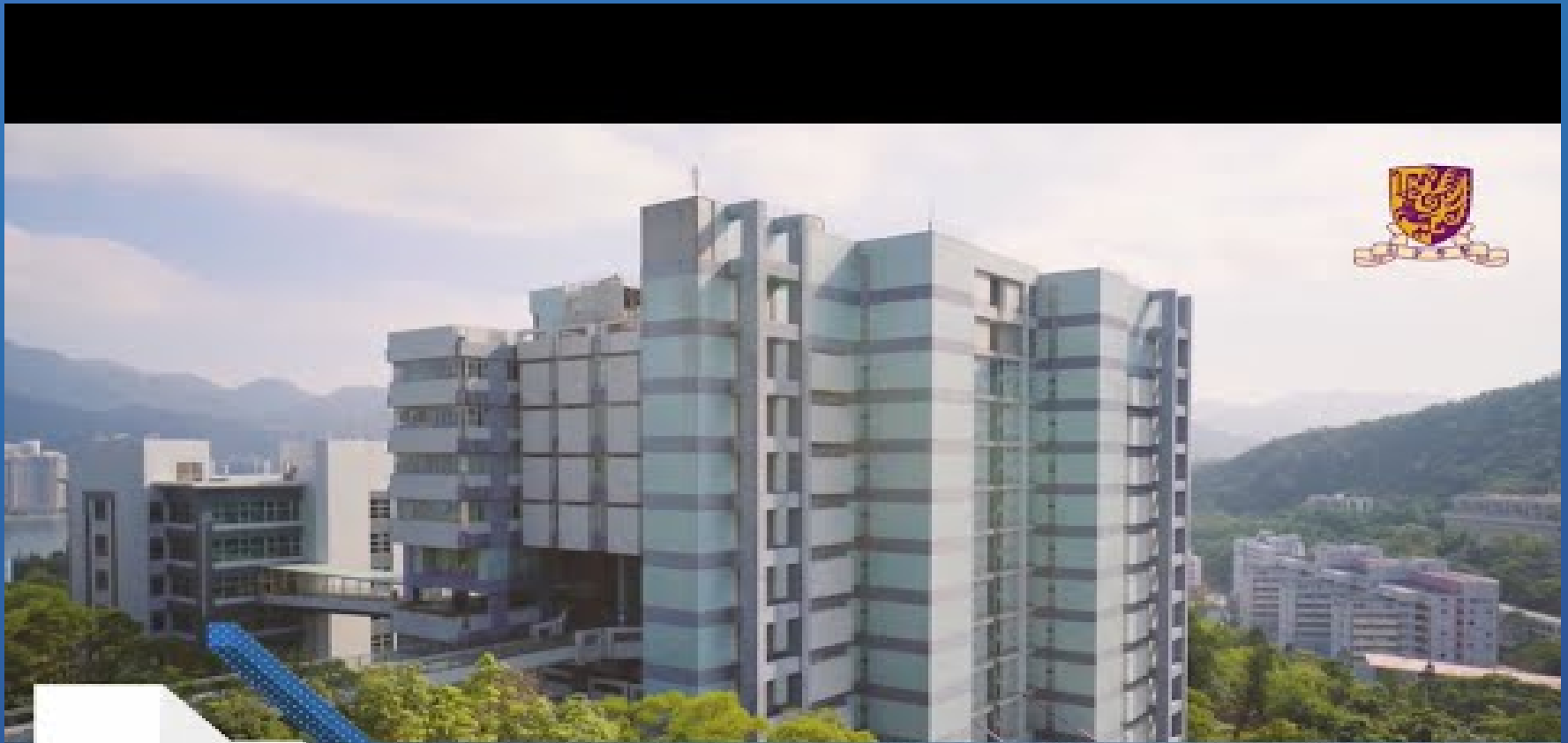https://www.youtube.com/watch?v=yiIzzJFKq88

# A Long History

- The first "Computer Science" department in Hong Kong, offering computer courses over 50 years
- Both CSCI and CENG are accredited by HKIE
- A strong alumni network

CS department
CS minor

BCS accredited

First in HK
AIST programme

1968

1978

1991

2021

1973

1983

2019

Offered courses

CS major

Engineering faculty
CE program

CUHK-THU Dual Degree
Programme and
CDAS programme
*[subject to University's approval]*
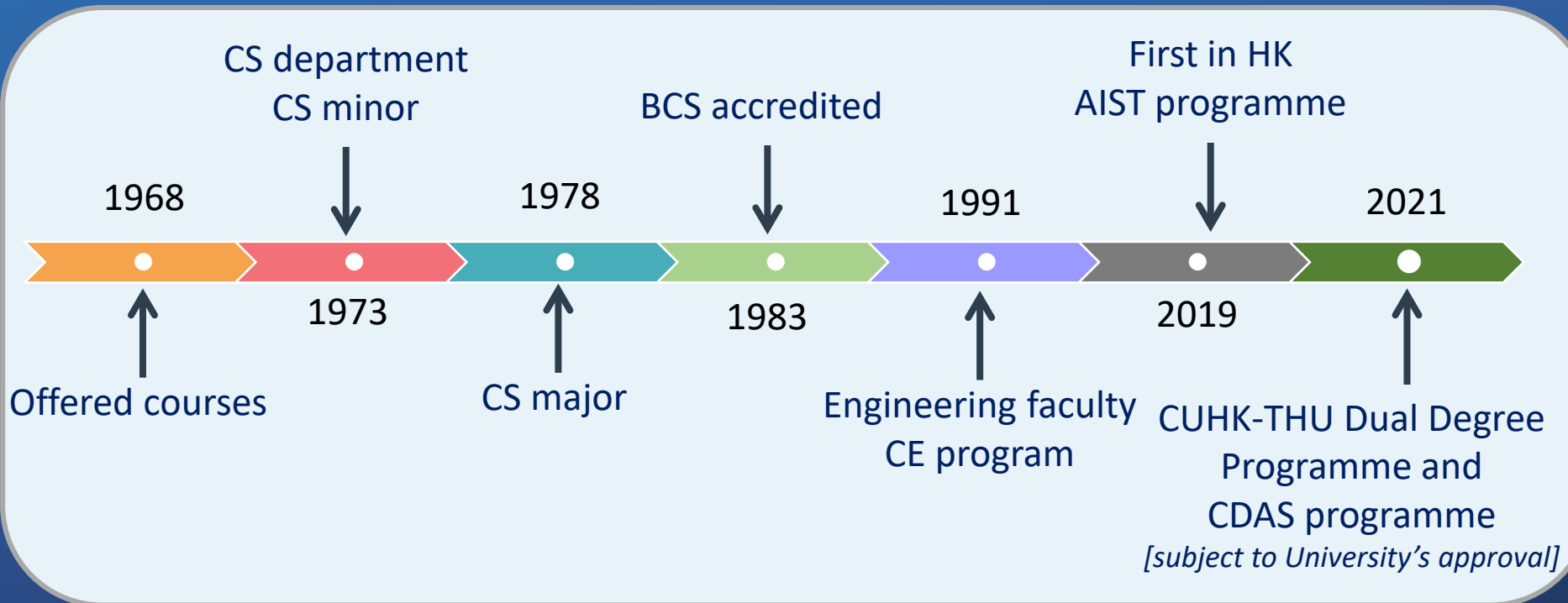
# Excellence in Teaching and Research



**One Turing Award Recipient**

Prof. Andrew Yao

**Seven ACM Fellows**

Prof. Andrew Yao, Prof. Martin Wong, Prof. Michael Lyu, Prof. Benjamin W. Wah, Prof. John Lui, Prof. Yufei Tao, etc.

**Ten IEEE Fellowship**

Prof. Irwin King, Prof. John Lui, Prof. Leo Jia, Prof. Michael Lyu, Prof. Martin Wong etc.

**CUHK University Education Award 2020**

Prof. Irwin King, for the KEEP team (Knowledge & Education Exchange Platform)

**Vice-Chancellor's Exemplary Teaching Award 2019**

Senior Lecturer Michael Fung

# Recent Achievements in Intl'/local Competitions

**International Collegiate Programming Contest (ICPC)**
*(formerly named as ACM Programming Competition)*

**2019: ranked 12th**
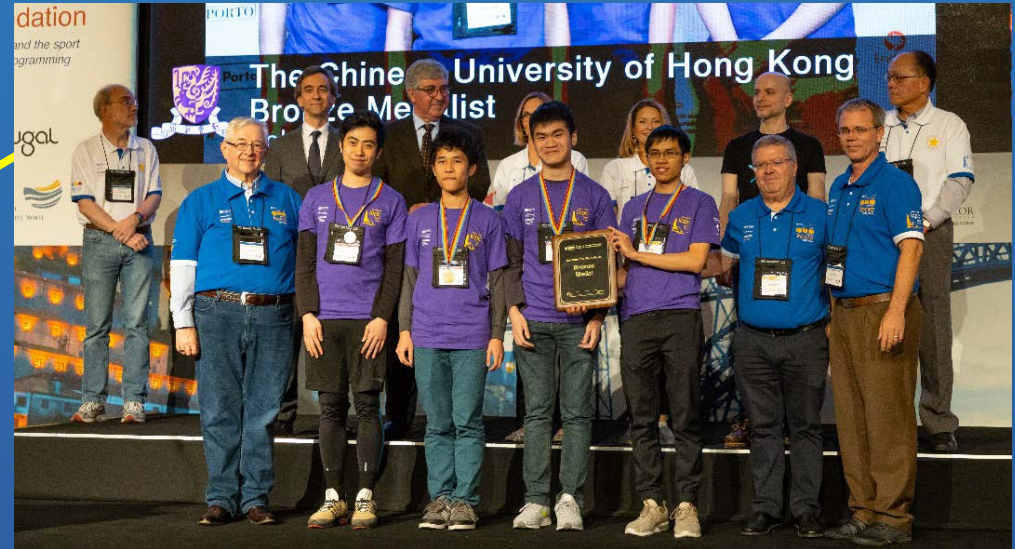**(over 3000 universities)**

2012: ranked 8th

2011: ranked 13th

2001: ranked 8th

**PwC's HackaDay 2019**

**2nd place**

# Student Training

**CUHK Amazon Deep Learning Workshop 2019**

**& AWSome Day 2020**

Cooperated with Amazon to offer student training in deep neural networks and machine learning



**City Challenge – Bridge to a Smarter City 2016**

Designed technology-based living applications for the elderly and won the second runner-up

# Industrial Visits

- Visit to companies to learn latest development in industry

# Work-Study Scheme

- One-year placement and internship for students to gain practical experience in a real working environment

**Example of Previous Opportunities in CSE**

More details will be announced when places are available!

# Strong Alumni Network

# Admission Arrangement and Requirements (First Year Entry)

# Admission Arrangement (First Year Entry)

- Department-based admission through
  Computer Science and Engineering (JS4412)
  - From 2022, no more "Broad-based Engineering" programme
  - Directly join our Department of Computer Science & Engineering

- Students will be allocated into one of the major programmes in "Major Allocation" after Year 1
  » Computer Engineering (CENG)
  » Computer Science (CSCI)

Note: Students with good entry grades may opt for "Priority Allocation" to guarantee their first choice!

# Within-department Major allocation

Note:

(1) Priority Allocation: Students with outstanding entry grades / scholarships and good academic performance in their first year are guaranteed their first choice of major

(2) It is expected that a relatively high percentage of students would be allocated to their preferred major

*Major Allocation:*

*https://www.cse.cuhk.edu.hk/admission/cengn/major-allocation-cengn/*
*https://www.cse.cuhk.edu.hk/admission/cscin/major-allocation-cscin/*

# Admission Requirements (For JUPAS Applicants)

| HKDSE Subject | Minimum Level | Subject Weighting |
|---|---|---|
| **HKDSE Core Subjects** | | |
| English Language | 3 | 1 |
| Chinese Language | 3 | 1 |
| Mathematics (Compulsory Part) | 4 | 1.5 |
| Liberal Studies | 2 | 0.5 |
| **HKDSE Elective Subjects** | | |
| One specific science subject ^ | 3 | 1.5 – 1.75 |
| Any one other subject # | 3 | 1 – 1.75 |

^ *Specific science subjects and subject weighting include 1.75 for Maths M1/M2, 1.5 for Biology, Chemistry, Physics and Combined Science.*

# *Preferred subjects include 1.75 for Maths M1/M2, 1.5 for Biology, Chemistry, Physics, Combined Science, Design and Applied Technology and Information and Communication Technology, and 1 for other subjects. Please refer to https://www.cse.cuhk.edu.hk/ for details of subject weighting.*

*Selection is based on the Best 5 HKDSE subjects with subject weighting applied. Bonus points will be awarded to the 6th and 7th subjects, if any.*

# Admission Requirements
## (for Non-JUPAS & International Applicants)

- Applicants seeking admission on the strength of qualifications other than HKDSE examination results (*e.g.*, IB, GCE-AL, overseas qualifications) can apply through Non-JUPAS channels

- Will be considered on the basis of their education background and academic achievements

- Can apply for "Admission with Advanced Standing" *(for particular qualifications only)*

Check more details at OAFA's website!

*Non-JUPAS Applications:* http://admission.cuhk.edu.hk/non-jupas-yr-1/requirements.html
*International Applications:* http://admission.cuhk.edu.hk/international/requirements.html

# Computer Engineering (CENG) or Computer Science (CSCI) ?

# Difference between CENG and CSCI

- Computer Engineering is more about building things
  - » To take care of design and hardware/software integration (*e.g.*, lower cost, higher speed, more energy efficient)

- Computer Science is more about designing software solutions
  - » To take care of coding, software architecture, and the underlying theory

# Growing Demand and Opportunities

- Skills in computer software, industrial automation, machine learning, network and security, robotics, *etc.* are of keen demand in many emerging jobs, according to LinkedIn 2020 Emerging Jobs Report

> Engineering isn't a new profession by any means, but engineering roles across the board are still seeing tremendous growth. More than 50% of this year's list was made up of roles related to engineering or development, with the emerging field of robotics appearing for the first time.
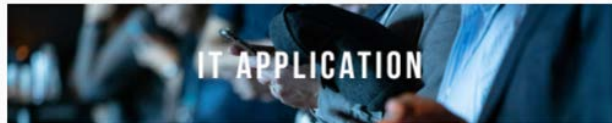
Reference:
https://business.linkedin.com/content/dam/me/business/en-us/talent-solutions/emerging-jobs-report/Emerging_Jobs_Report_U.S._FINAL.pdf

# Growing Demand and Opportunities

Hong Kong Top 5 Job Trend (2020):

1. Regulatory & Compliance in Banking & Financial Services

2. FinTech & InsurTech

3. Digital Marketing

4. Human-centered Design

5. IT Applications



IT APPLICATION

Information Technology talents continue to play a crucial role in digital transformation and execution of AI Machine Learning. Application developers are in high demand recently.
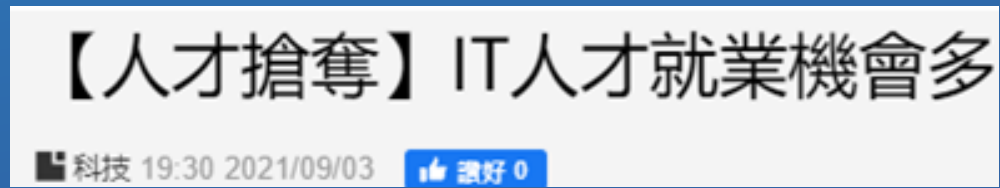
**Related Jobs:**

○ Software Engineer

○ Web Developer

○ Mobile Application Developer

○ Quality Assurance Engineer



【人才搶奪】IT人才就業機會多
科技 19:30 2021/09/03  讚好 0

【人才搶奪】IT人才就業機會多　重視企業文化及發揮空間
科技 19:30 2021/09/03  讚好 0

企業數碼轉型需求大
IT人搵工最重視咩因素？

References:
https://bit.ly/3aqHsDN
https://bit.ly/3FDls62

# Admission Arrangement and Requirements (Senior Year Entry)

# Admission Arrangement (Senior Year Entry)

- Applicable for local applicants with Associate Degree or Higher Diploma qualifications only

- To meet the entrance requirements, you need to have,
  - » successfully completed a local course of study leading to the qualification of associate degree / higher diploma, preferably with overall CGPA ≥ 3.0 or equivalent, AND
  - » attained an acceptable level of proficiency in English and Chinese languages

# Admission Arrangement (Senior Year Entry)

- To make your application competitive, you need to demonstrate capabilities in mathematics, programming and communication skills

- If you are unsuccessful for the Senior Year Entry, you will be considered for the Broad-based Engineering (BERGN) First Year Entry with Advanced Standing

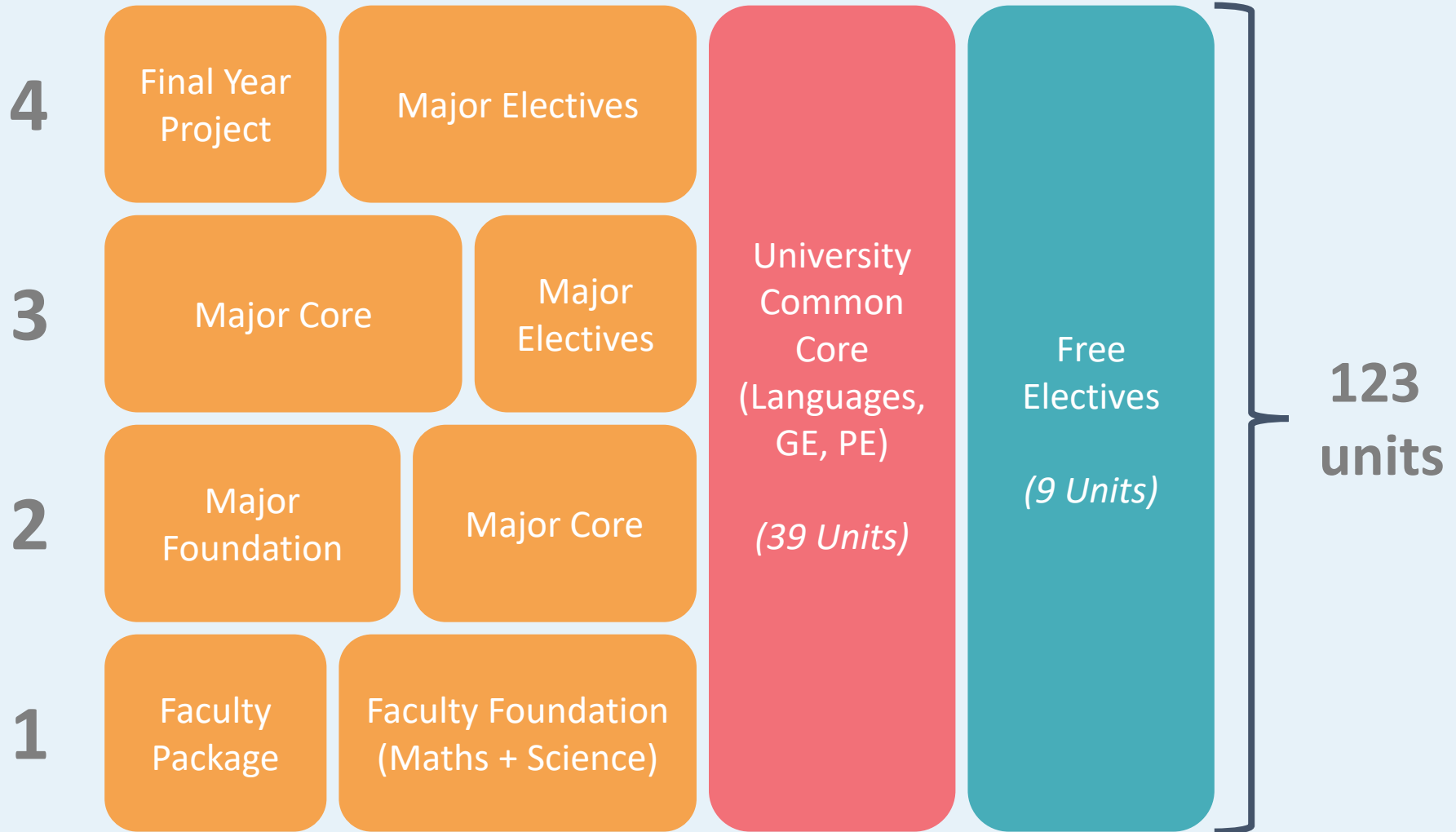Check more details at OAFA's website!

*Senior Year Applications:*

*http://admission.cuhk.edu.hk/non-jupas-senior/requirements.html*

# Curriculum Structure
# CENG & CSCI

# Curriculum – Overview

| | | | University Common Core (Languages, GE, PE) *(39 Units)* | Free Electives *(9 Units)* | |
|---|---|---|---|---|---|
| **4** | Final Year Project | Major Electives | | | |
| **3** | Major Core | Major Electives | | | **123 units** |
| **2** | Major Foundation | Major Core | | | |
| **1** | Faculty Package | Faculty Foundation (Maths + Science) | | | |

# Curriculum – Major Requirements

**4**
- Final Year Project
- Major Electives

**3**
- Major Core
- Major Electives

**2**
- Major Foundation
- Major Core

**1**
- Faculty Package
- Faculty Foundation (Maths + Science)

**75 units**

# Curriculum – Faculty Package and Foundation

| | | |
|---|---|---|
| **4** | Final Year Project | Major Electives |
| **3** | Major Core | Major Electives |
| **2** | Major Foundation | Major Core |
| **1** | Faculty Package | Faculty Foundation (Maths + Science) |

## Faculty Package and Foundation (15 units)

» Problem Solving By Programming (ENGG1110)

» Linear Algebra for Engineers (ENGG1120)

» Multivariable Calculus for Engineers (ENGG1130)

» Calculus for Engineers (MATH1510)

» Foundation Science

# Curriculum – Major Foundation *(for CENG)*

| | | |
|---|---|---|
| **4** | Final Year Project | Major Electives |
| **3** | Major Core | Major Electives |
| **2** | Major Foundation | Major Core |
| **1** | Faculty Package | Faculty Foundation (Maths + Science) |

## Major Foundation (11 units)

- » Introduction to Computing Using C++ (CSCI1120)
- » Complex Variables for Engineers (ENGG2720)
- » Differential Equations for Engineers (ENGG2740)
- » Probability for Engineers (ENGG2760)
- » Statistics for Engineers (ENGG2780)

# Curriculum – Major Core *(for CENG)*

| | | |
|---|---|---|
| **4** | Final Year Project | Major Electives |
| **3** | Major Core | Major Electives |
| **2** | Major Foundation | Major Core |
| **1** | Faculty Package | Faculty Foundation (Maths + Science) |

## Major Core (31 units)

» Digital Logic Design Laboratory (CENG2010)

» Fundamentals of Embedded Systems (CENG2030)

» Embedded System Design (CENG2400)

» Computer Organization and Design (CENG3420)

# Curriculum – Major Core *(for CENG)*

| | | |
|---|---|---|
| **4** | Final Year Project | Major Electives |
| **3** | Major Core | Major Electives |
| **2** | Major Foundation | Major Core |
| **1** | Faculty Package | Faculty Foundation (Maths + Science) |

## Major Core (31 units)

» Data Structures (CSCI2100)

» Software Engineering (CSCI3100)

» Introduction to Operating Systems (CSCI3150)

» Introduction to Discrete Mathematics and Algorithms (CSCI3190)

» Computers and Society (CSCI3250)

» Engineering Practicum (CSCI3251)

# Curriculum – Major Core *(for CENG)*

| | | |
|---|---|---|
| **4** | Final Year Project | Major Electives |
| **3** | Major Core | Major Electives |
| **2** | Major Foundation | Major Core |
| **1** | Faculty Package | Faculty Foundation (Maths + Science) |

## Major Core (31 units)

» Fundamental of Electric Circuits (ELEG2202)

» Digital Logic and Systems (ENGG2020)
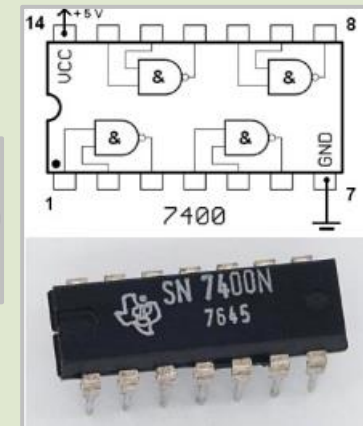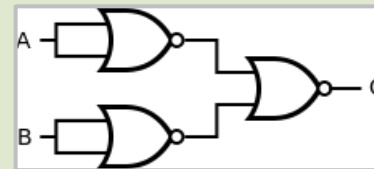
# Curriculum – Major Electives *(for CENG)*

| | | |
|---|---|---|
| **4** | Final Year Project | Major Electives |
| **3** | Major Core | Major Electives |
| **2** | Major Foundation | Major Core |
| **1** | Faculty Package | Faculty Foundation (Maths + Science) |

## Major Electives (12 units)

## Streams

1. **Embedded Systems**
2. **VLSI Design and EDA**

## Non-Stream

3. General Computer Engineering
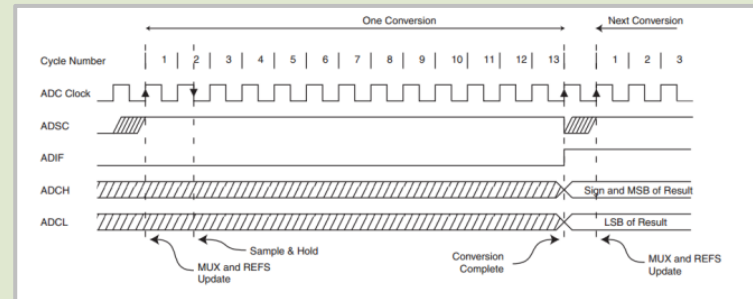
# Curriculum – Major Foundation *(for CSCI)*

| 4 | Final Year Project | Major Electives |
|---|---|---|
| 3 | Major Core | Major Electives |
| 2 | **Major Foundation** | Major Core |
| 1 | Faculty Package | Faculty Foundation (Maths + Science) |

## Major Foundation (10 units)

» Introduction to Computing Using Java (CSCI1130)

» Discrete Mathematics for Engineers (ENGG2440)

» Probability for Engineers (ENGG2760)

» Statistics for Engineers (ENGG2780)



| DICE CHART | | |
|---|---|---|
| ROLL | | PROBABILITY |
| 2 | | 1/36 |
| 3 | | 2/36 |
| 4 | | 3/36 |
| 5 | | 4/36 |
| 6 | | 5/36 |
| 7 | | 6/36 |
| 8 | | 5/36 |
| 9 | | 4/36 |
| 10 | | 3/36 |
| 11 | | 2/36 |
| 12 | | 1/36 |

# Curriculum – Major Core *(for CSCI)*

| | | |
|---|---|---|
| **4** | Final Year Project | Major Electives |
| **3** | Major Core | Major Electives |
| **2** | Major Foundation | Major Core |
| **1** | Faculty Package | Faculty Foundation (Maths + Science) |

## Major Core (27 units)

» Computer Organization and Design (CENG3420)

» Data Structures (CSCI2100)



A LIFO Stack    A FIFO queue

# Curriculum – Major Core *(for CSCI)*

| | | |
|---|---|---|
| **4** | Final Year Project | Major Electives |
| **3** | Major Core | Major Electives |
| **2** | Major Foundation | Major Core |
| **1** | Faculty Package | Faculty Foundation (Maths + Science) |
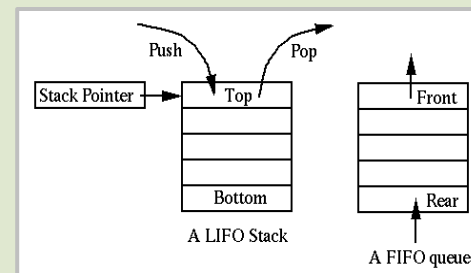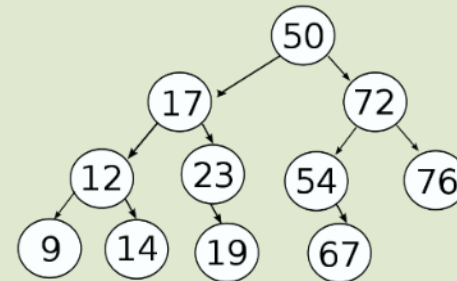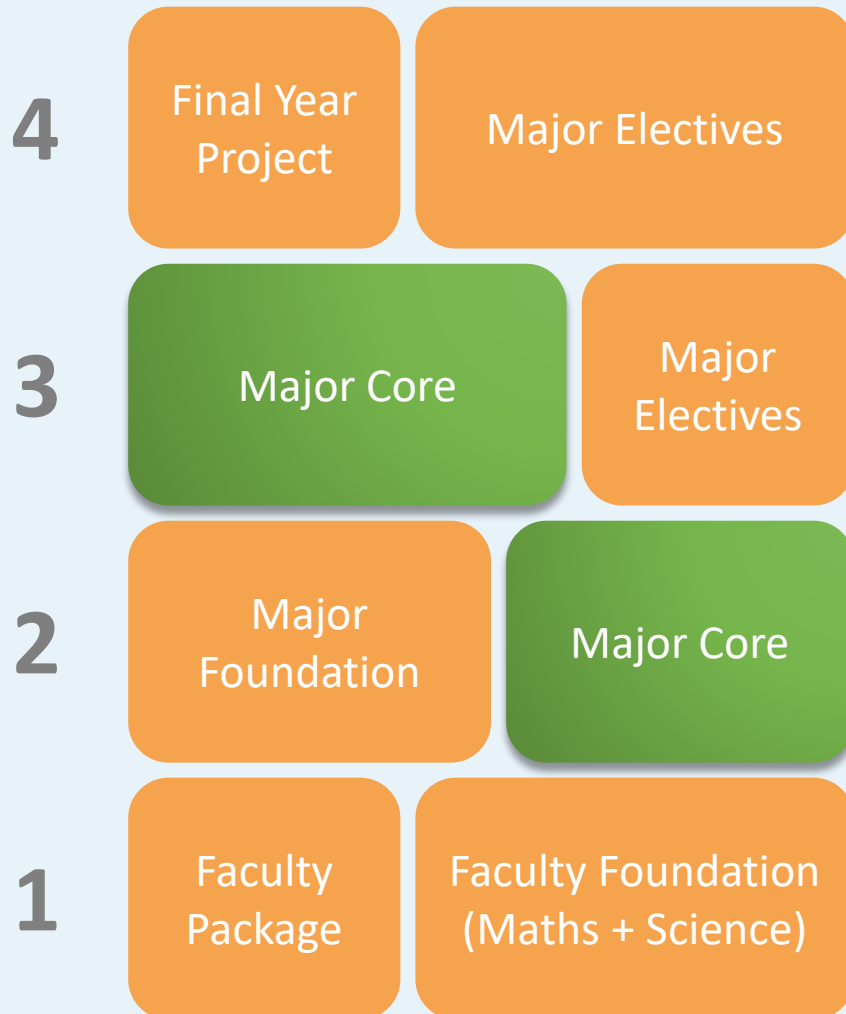
## Major Core (27 units)

- » Software Engineering (CSCI3100)
- » Formal Languages and Automata Theory (CSCI3130)
- » Introduction to Operating Systems (CSCI3150)
- » Design and Analysis of Algorithms (CSCI3160)
- » Principles of Programming Languages (CSCI3180)

# Curriculum – Major Core *(for CSCI)*

| Year | | |
|---|---|---|
| **4** | Final Year Project | Major Electives |
| **3** | Major Core | Major Electives |
| **2** | Major Foundation | Major Core |
| **1** | Faculty Package | Faculty Foundation (Maths + Science) |

## Major Core (27 units)

» Computers and Society (CSCI3250)

» Engineering Practicum (CSCI3251)

» Digital Logic and Systems (ENGG2020)
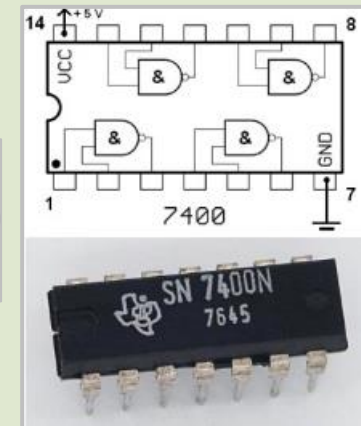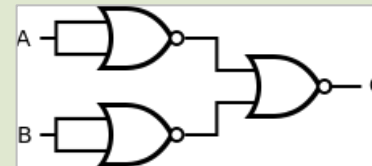
# Curriculum – Major Electives *(for CSCI)*

| 4 | Final Year Project | Major Electives |
|---|---|---|
| 3 | Major Core | Major Electives |
| 2 | Major Foundation | Major Core |
| 1 | Faculty Package | Faculty Foundation (Maths + Science) |

## Major Electives (17 units)

## Streams

1. **Intelligence Science**
2. **Database and Information Systems**
3. **Rich Media**
4. **Distributed Systems, Networks and Security**
5. **Algorithms and Complexity**
6. **Data Analytics**

## Non-Stream

7. General Computer Science

# Curriculum – Distinct Topics

- Computer-aided Design for Very Large Scale Integrated Circuits (CENG4120/CENG5030/CENG5270)
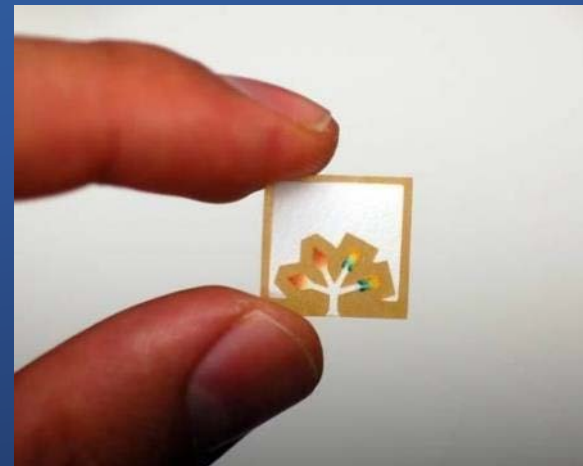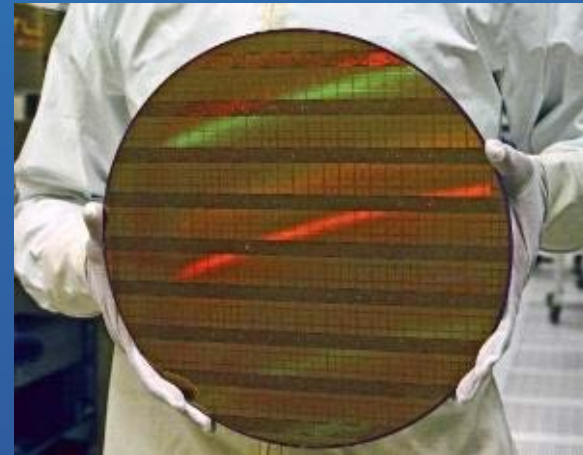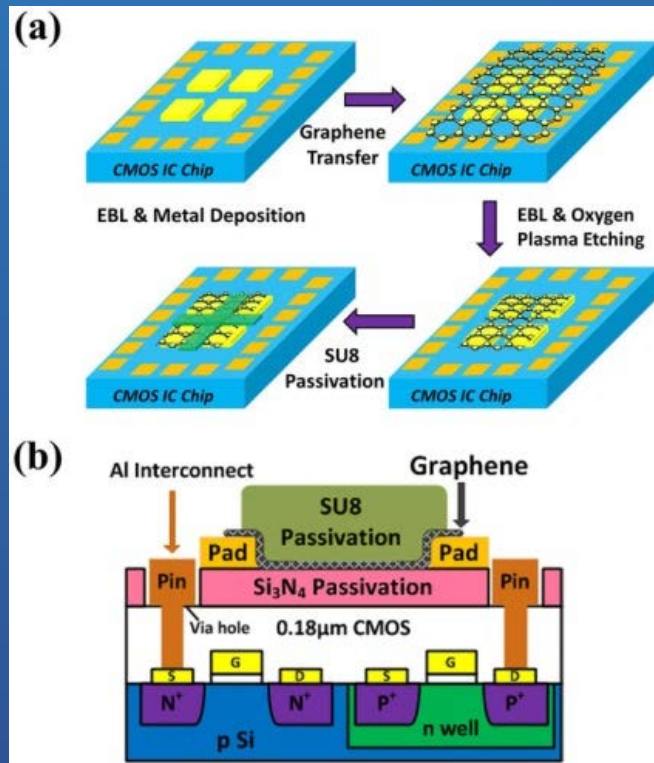
# Curriculum – Distinct Topics

- Embedded System Development and Applications (CENG4480)

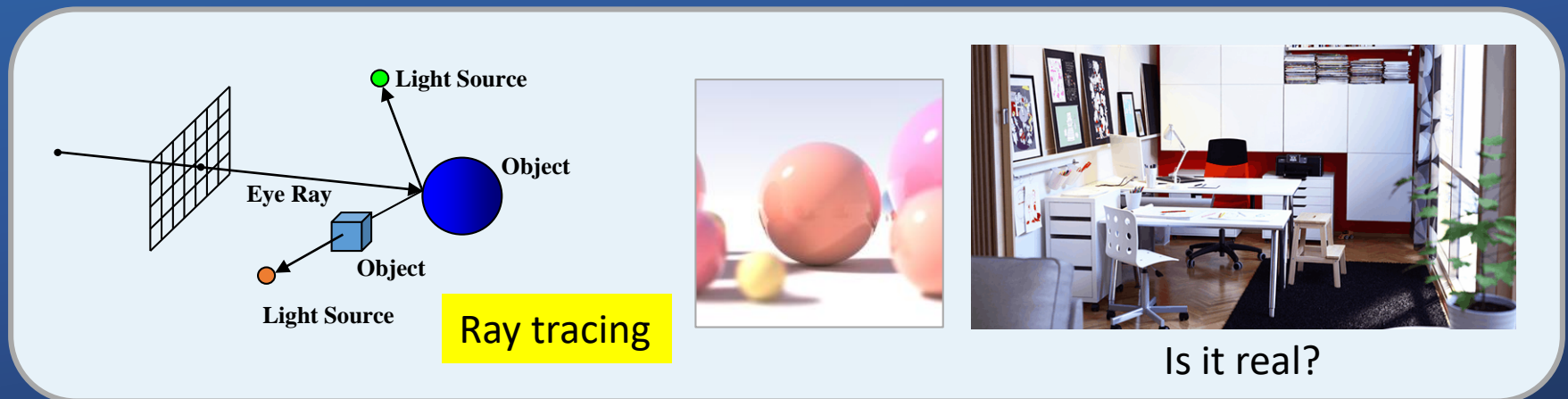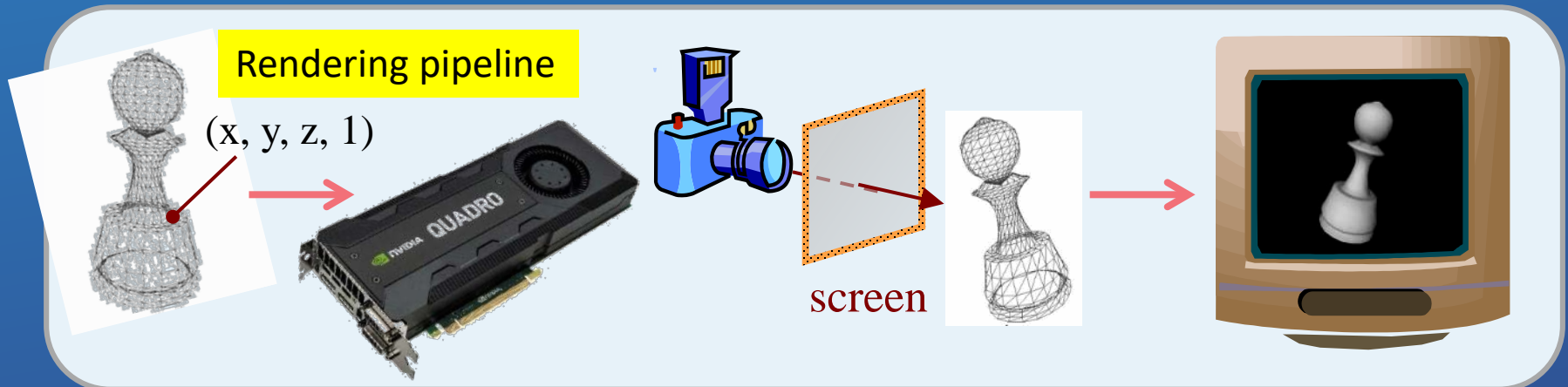# Curriculum – Distinct Topics

- Artificial Intelligence (CSCI3230/ESTR3108)
  - » Create computer software that are capable of intelligent behavior
    - ✓ Searching
    - ✓ Pattern recognition
    - ✓ Genetics algorithms
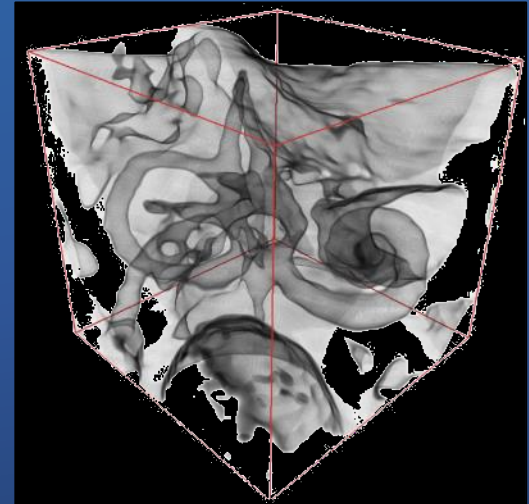    - ✓ Artificial neural networks
    - ✓ Deep learning
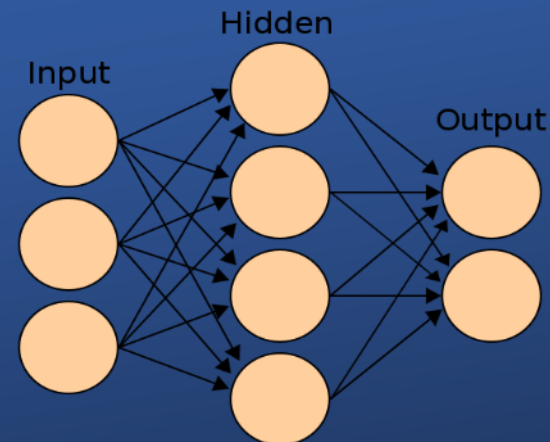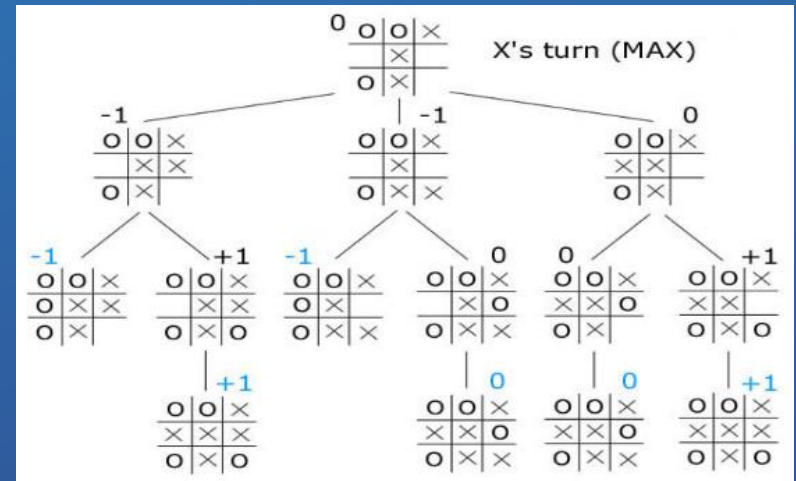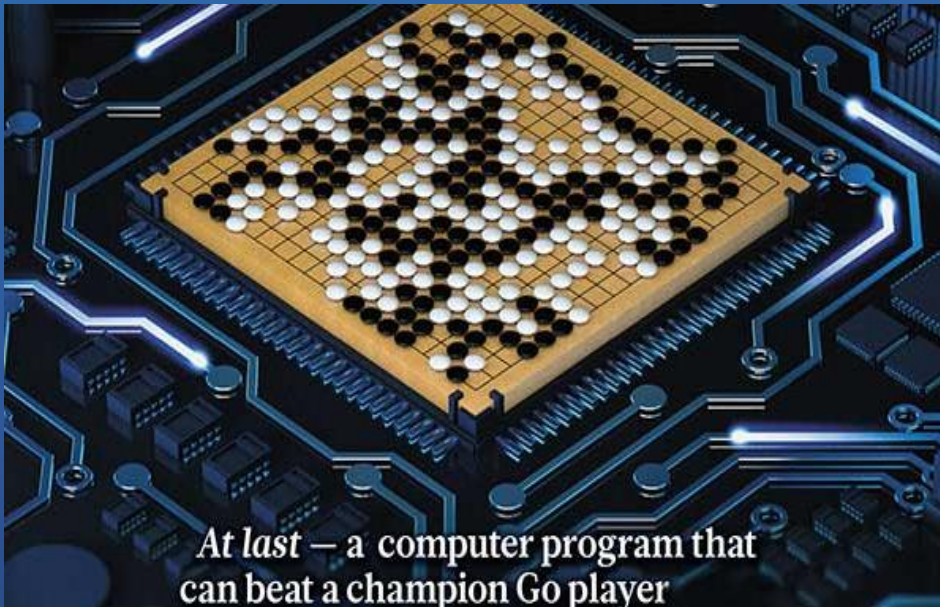


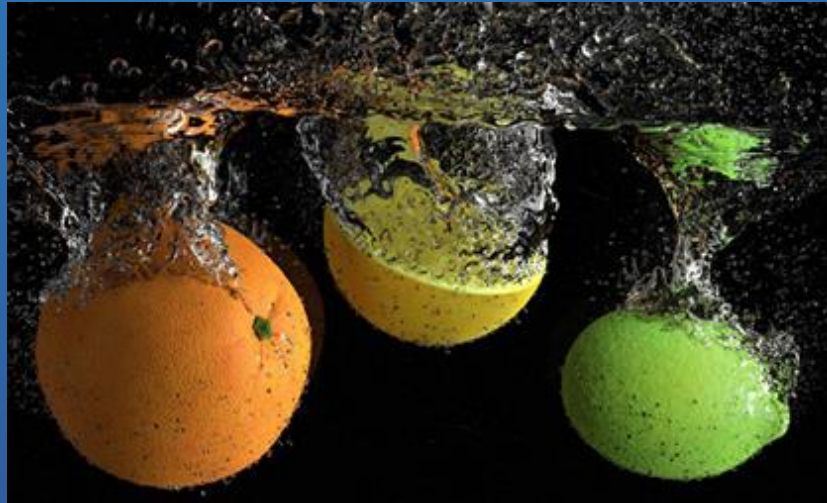*At last – a computer program that can beat a champion Go player*

# Curriculum – Distinct Topics

- Computer Graphics and Multi-media (CSCI3260/CSCI3280/CSCI3290)
  - » Use graphics cards to create photorealistic images and movies



Rendering pipeline

$(x, y, z, 1)$

QUADRO

screen



Light Source

Eye Ray

Object

Object

Light Source
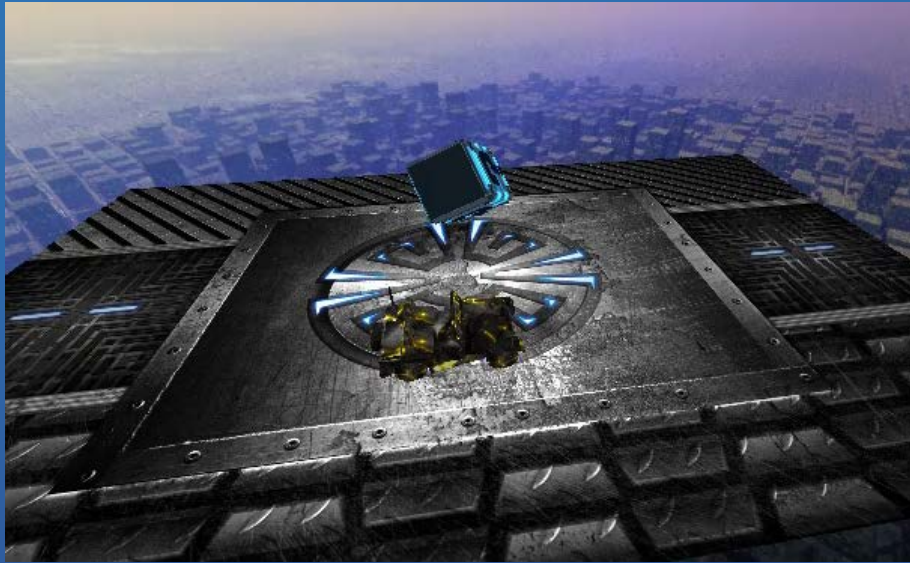
Ray tracing

Is it real?

# Curriculum – Distinct Topics

- Computer Graphics and Multi-media (CSCI3260/CSCI3280/CSCI3290)

Film & visual effects & data visualization
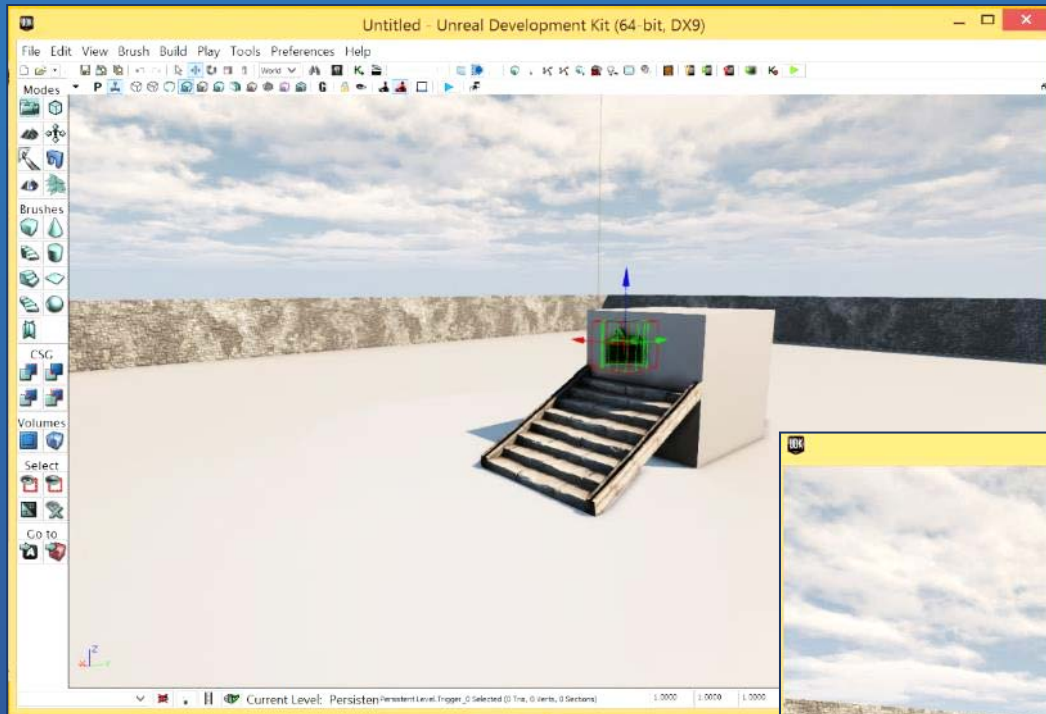
# Curriculum – Distinct Topics

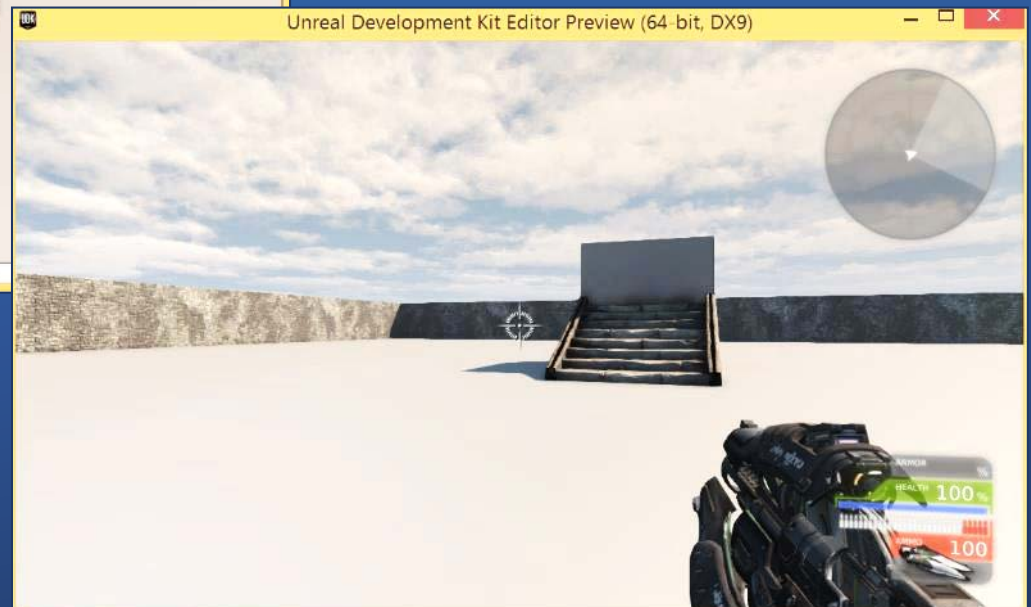- Computer Graphics and Multi-media (CSCI3260/CSCI3280/CSCI3290)



Students' course projects

# Curriculum – Distinct Topics

- Computer Game Software (CSCI4120)



Learn how to develop a game

# Curriculum – Distinct Topics

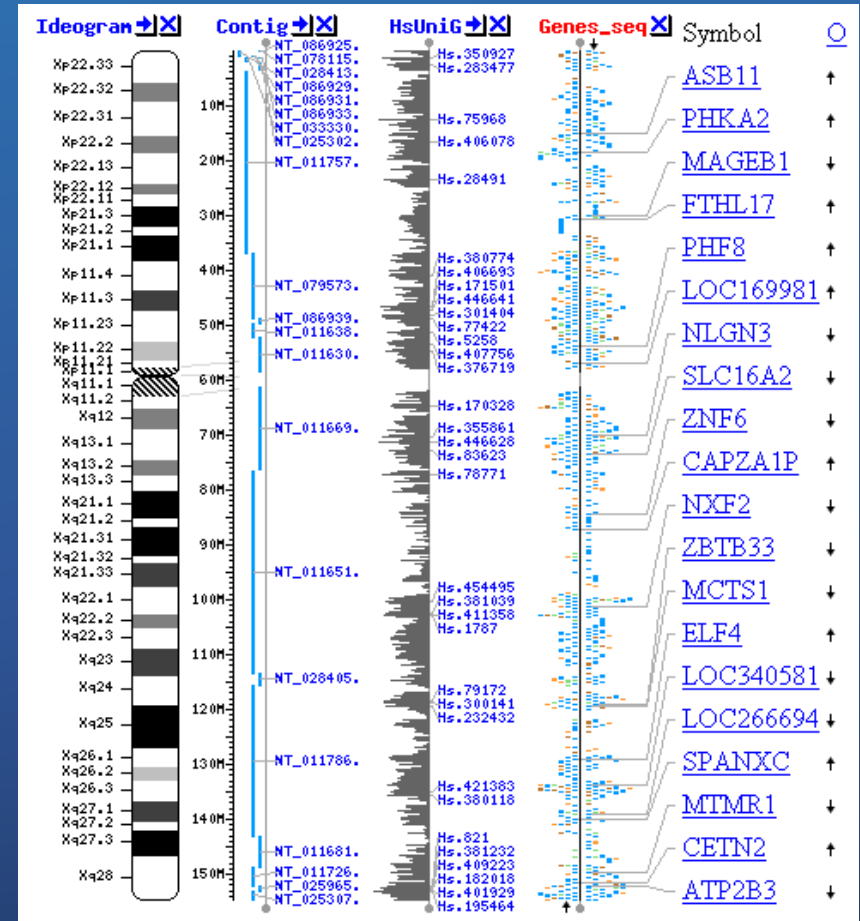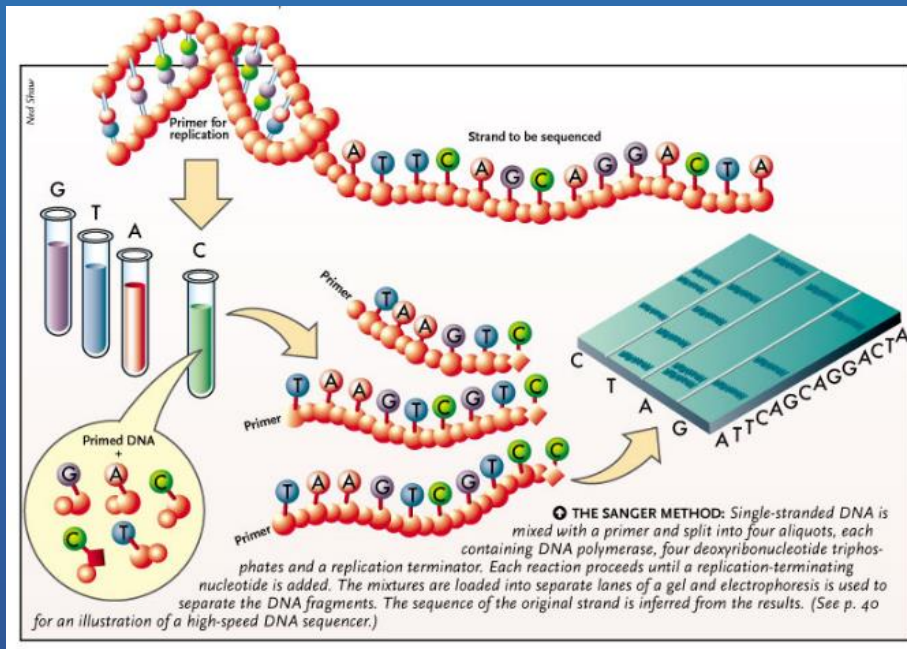- Computer Game Software (CSCI4120)



Students' course projects

# Curriculum – Distinct Topics

- Algorithms for Bioinformatics (CSCI3220)
  - » Use computer to model and interpret biological data
  - » DNA mutation ↔ diseases



THE SANGER METHOD: Single-stranded DNA is mixed with a primer and split into four aliquots, each containing DNA polymerase, four deoxyribonucleotide triphosphates and a replication terminator. Each reaction proceeds until a replication-terminating nucleotide is added. The mixtures are loaded into separate lanes of a gel and electrophoresis is used to separate the DNA fragments. The sequence of the original strand is inferred from the results. (See p. 40 for an illustration of a high-speed DNA sequencer.)

# Curriculum – Distinct Topics

- Big Data Analytics and Machine Learning (CSCI3170/CSCI3320/CSCI4180/CSCI5510)

ATCGAATTCCATAATC
ATTATCGAACTTACGA
AATTTACAATCAATCG

**Data**

ATCGAATTCCATAATC
ATTATCGAACTTACGA
AATTTACAATCAATCG
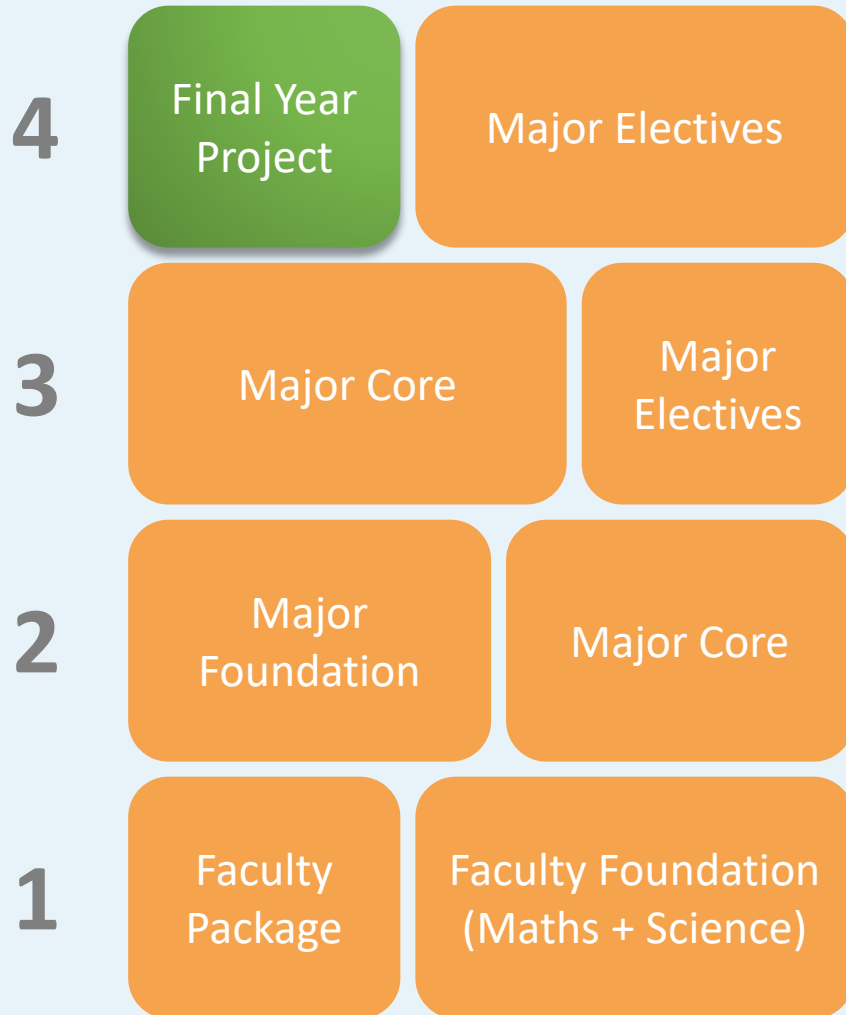
**Patterns**

Fast and Efficient

**Knowledge**

**Information**

# Curriculum – Distinct Topics

- Many other practical and interesting courses:
  - » Algorithms
  - » Cloud Computing
  - » Computational Finance
  - » Computer and Network Security
  - » Databases
  - » Energy Efficient Computing
  - » Networks
  - » Operating Systems
  - » Rapid Prototyping of Digital Systems
  - » Smart Hardware Design
  - » ……

# Curriculum – Final Year Project (FYP)

| | | |
|---|---|---|
| **4** | Final Year Project | Major Electives |
| **3** | Major Core | Major Electives |
| **2** | Major Foundation | Major Core |
| **1** | Faculty Package | Faculty Foundation (Maths + Science) |

## Final Year Project (6 units)

- » Pick an interesting topic
- » Interdisciplinary nature
- » Apply the knowledge learnt in the previous courses
- » Many open topics. Your creativity and discussion with the supervisor
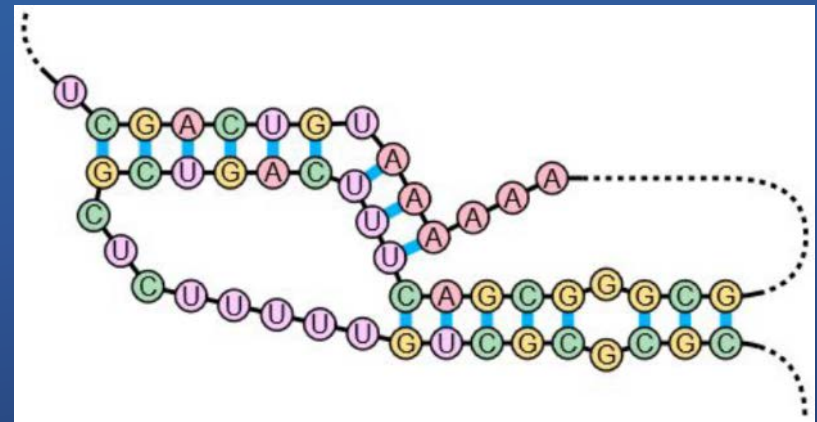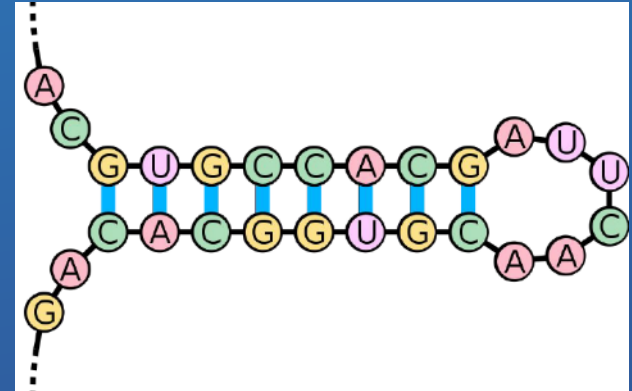- » Complete a project under the supervision of an advisor

**Open topic FYP** – you may also propose a project to a professor

# FYP (AI + Bioinformatics)

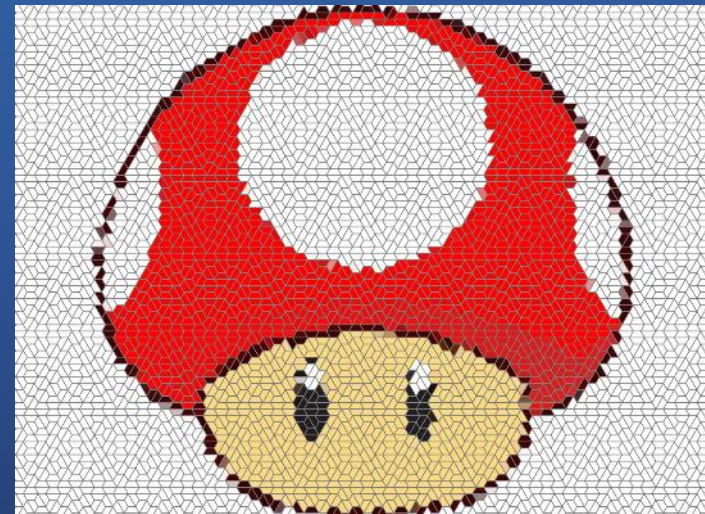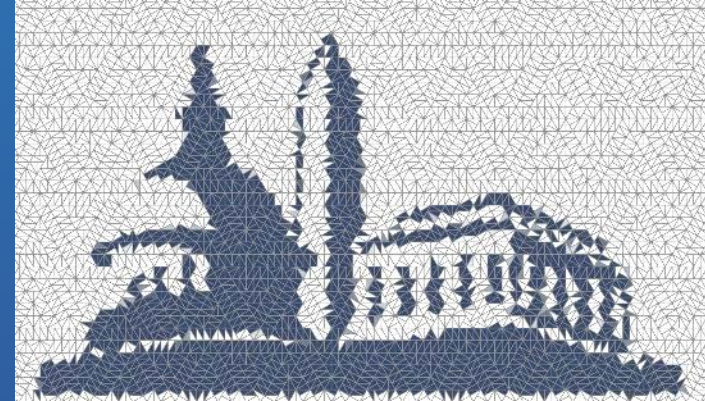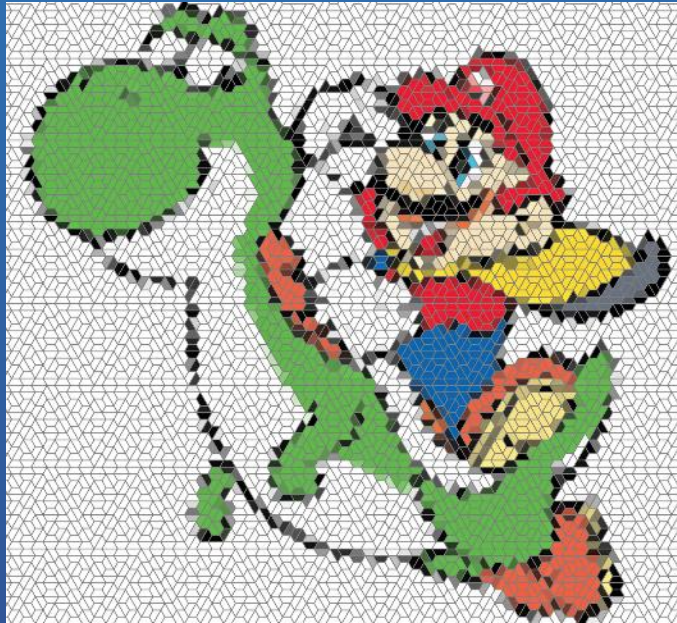- Apply machine learning to predict RNA-protein interaction
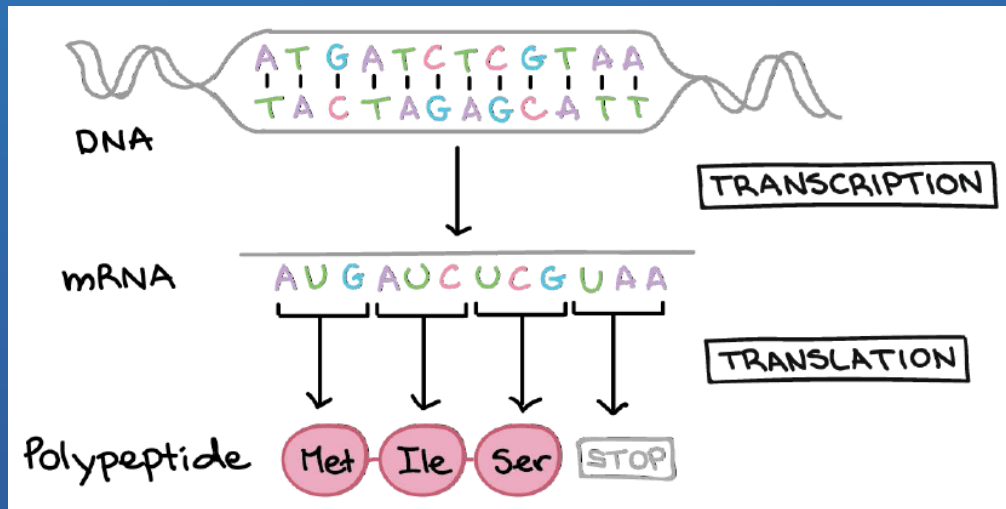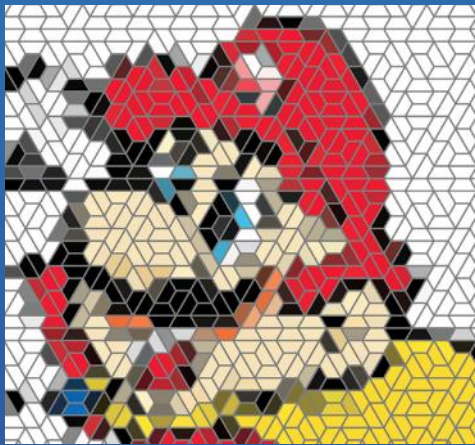


RNA-binding protein (RBP)



RNA folds to a specific structure to fit into the protein binding site

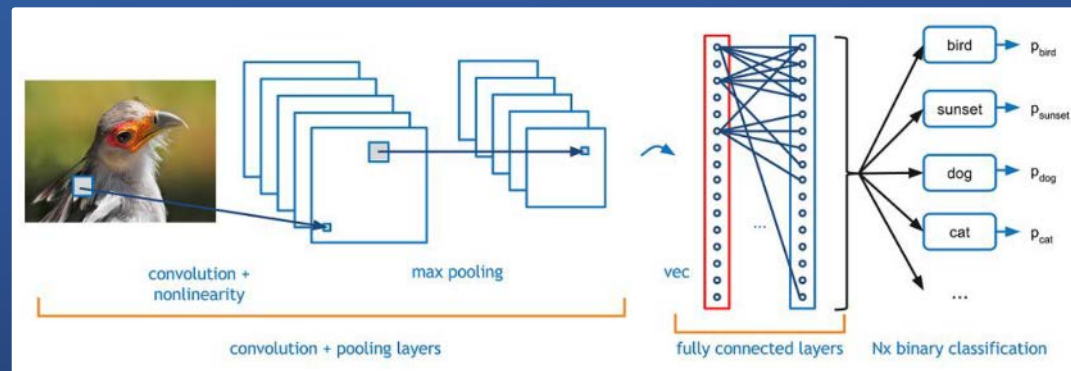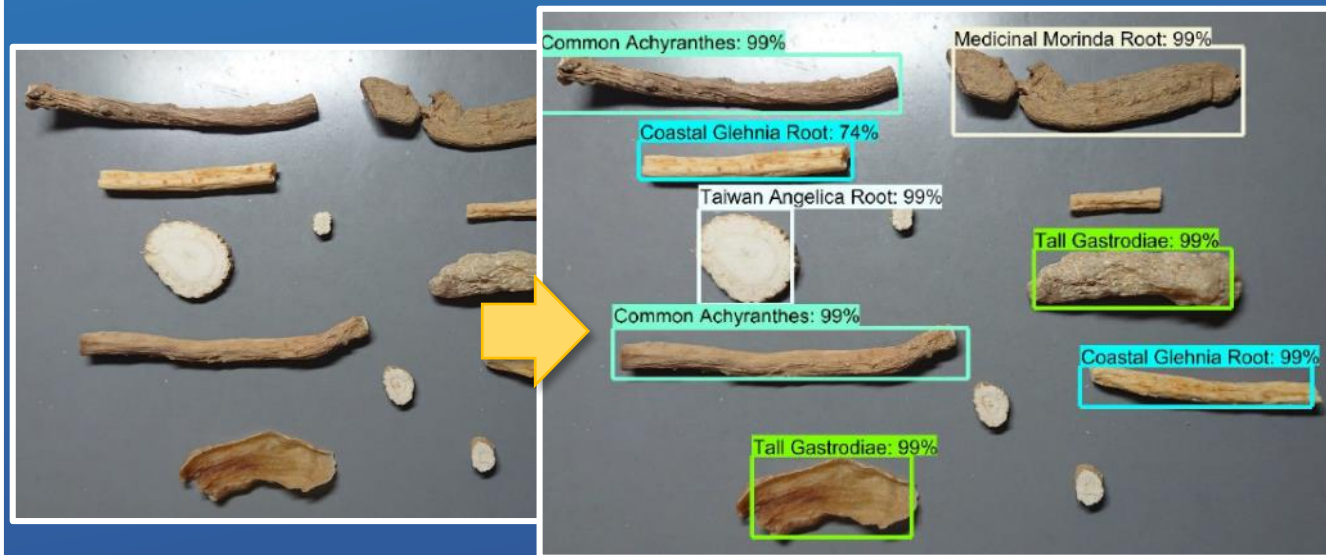# FYP (AI + Multimedia)

- Design a neural network that learns to produce a tiling



From FYP CWF1902

# FYP (AI + Computer Vision)

- Chinese Medicinal Herb Recognizer



From FYP MHW1804
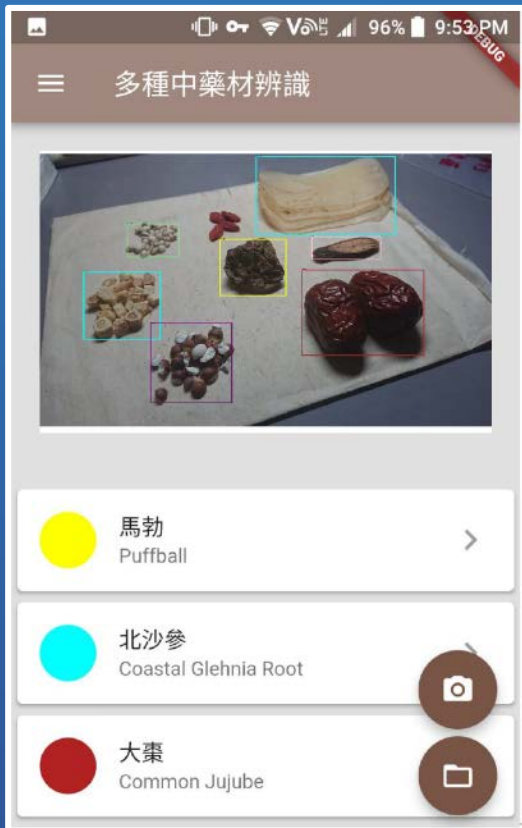
# FYP (Self-driving Robots)

• Controls: Serial, Bluetooth, and Raspberry Pi, *etc.*



Arduino Mega 2560



Raspberry Pi 3b+



Camera module



PiCamera & Raspberry Pi & Servo Motors

Motor Drivers & Stepper Motors

Arduino Mega 2560 & Power Supplies & Motor System

From FYP MCY1801

# Sharing from Our CSE Students

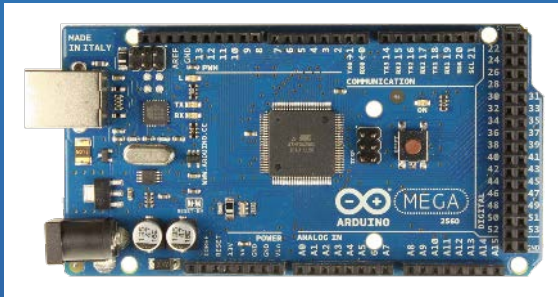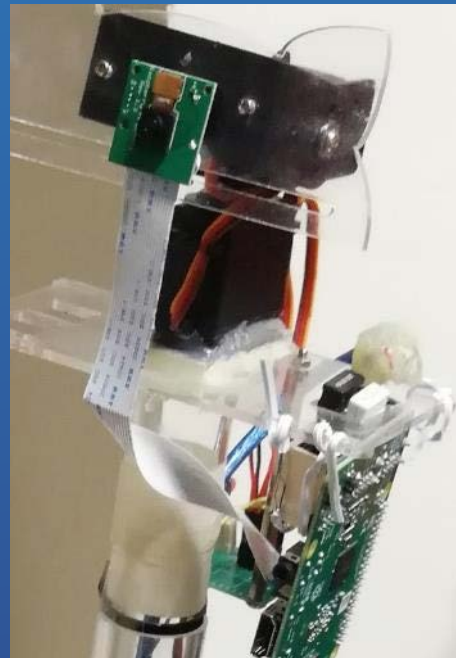I'm now working in Deloitte's Cyber Risk Advisory Team. Cybersecurity is a promising job, you can equip yourself to be a cybersecurity expert by enrolling relevant courses provided by the Department of Computer Science and Engineering. Cybersecurity professionals, like information security analysts, protect businesses, governments, and individuals from criminal activities on the internet. With the explosive growth of the internet in business, education, and personal communication, computer experts with knowledge of cybersecurity are in high demand.

Ka Ki CHAU,
CSCI Graduate of 2021

# Sharing from Our CSE Students

The courses offered by the CSE department give a solid foundation on both the practical and theoretical sides of CSCI programme. I'm now working in Google's Android Pixel team, topics from CSCI courses still often pop up during my day-to-day job. As the software industry becomes increasingly competitive, I feel quite lucky that I've undergone such rigorous academic training.

Yu CHAO,
CSCI Graduate of 2020

# Sharing from Our CSE Students

During the 4 years of my study as a CENG student, I could take courses on different topics. These courses not only consolidate my knowledge related to my major but can also train up my critical thinking and logical thinking skills. We have to design and implement a smart hardware product in just a few weeks and this project not only gives me a hands-on experience on designing smart hardware product, but also improves my communication skill and time management skill.

Hei Yiu LAW,
CENG Graduate of 2021

# Sharing from Our CSE Students

The special thing about AIST programme is the learning experience which has been eye-opening. I can get to build a solid foundation on not only the problem-solving mindset, but also fundamental knowledge such as calculus and statistics. Although some may find them difficult, they are valuable tools that will help distinguish me from the non-engineering counterparts.

Marco AU YONG,
AIST Year 3 Student

# Why CSE Department?

**Because it is fun!**
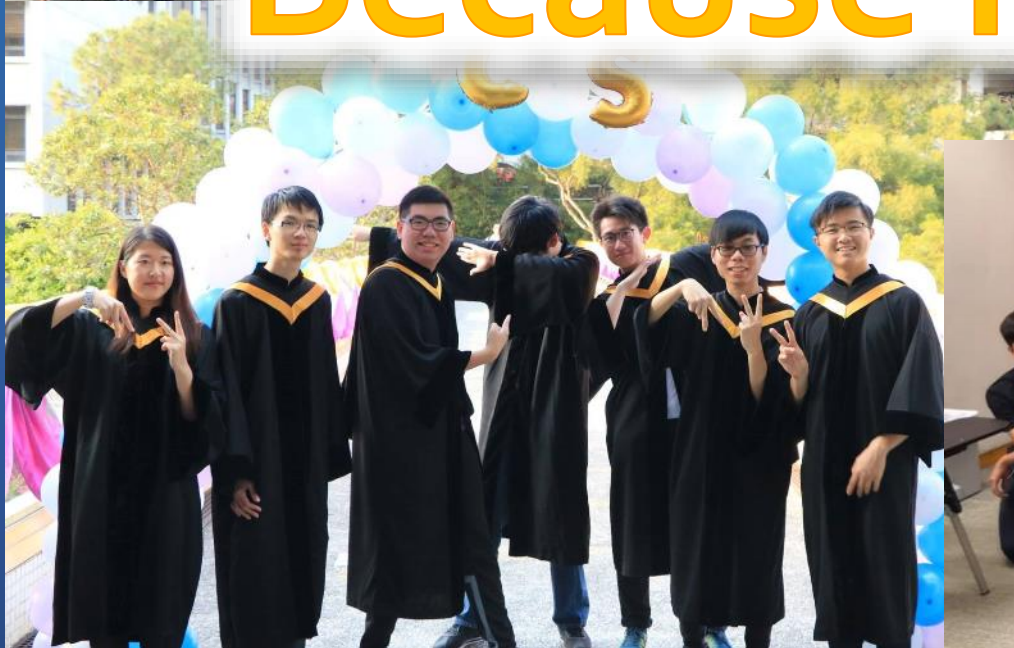
# What's More?

- Chances to create your own project and innovation with support and advice from CSE teachers

- Exchange opportunities to world-class universities

- High competitiveness in job market with 90% of CSE graduates employed within one month of graduation

- CSE teachers usually have the highest teaching evaluation scores

# Optional Programme:
# CUHK-THU DDP in Computer Science
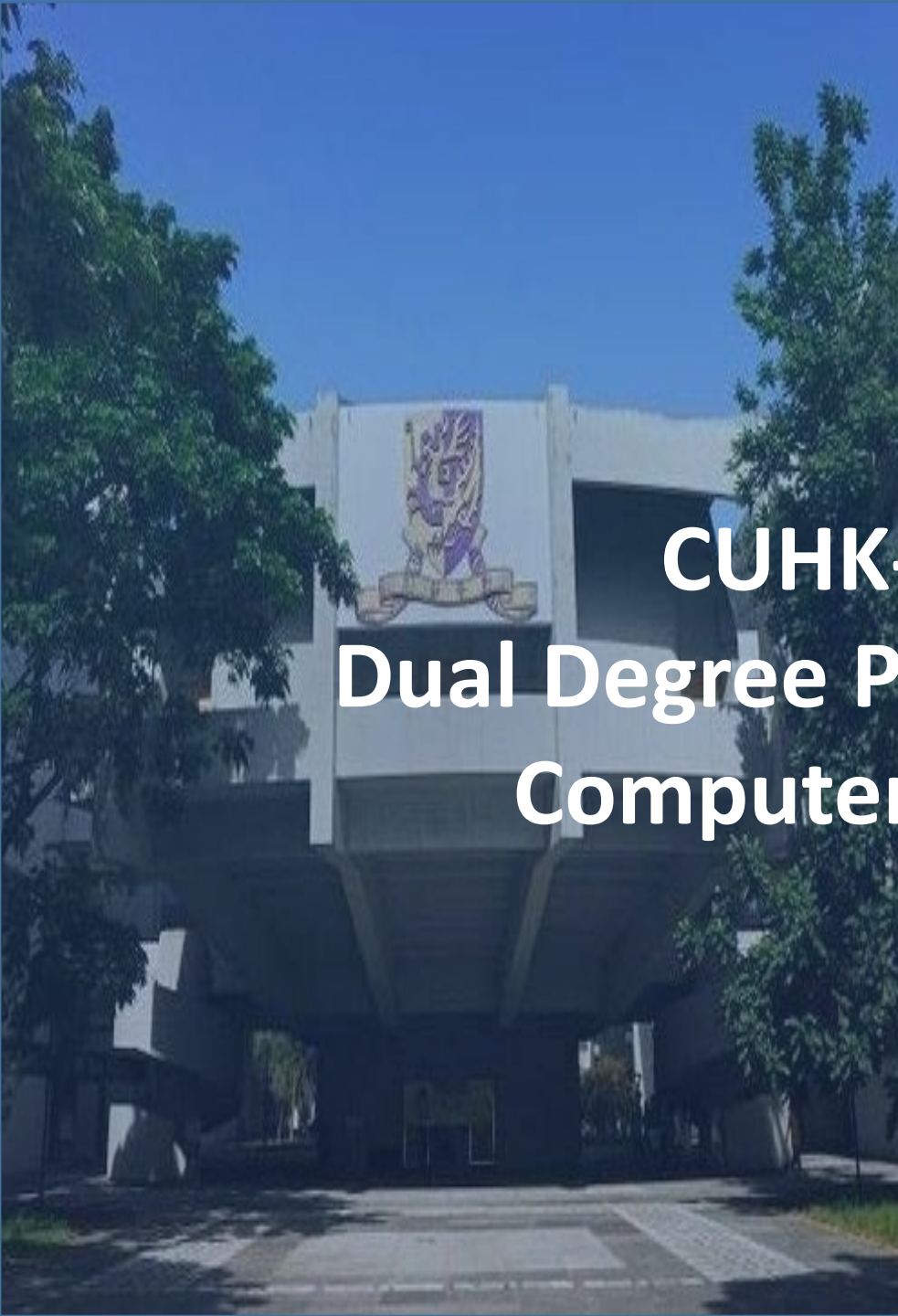
**CUHK-THU
Dual Degree Programme in
Computer Science**

# CUHK-THU DDP in CS *(in progress)*

A Dual Degree Programme (DDP) in Computer Science co-offered by The Chinese University of Hong Kong (CUHK) and Tsinghua University (THU).

- Aims to nurture world-class computer scientists and future leaders of the industry: very limited quotas
- Pursue two degrees at the same time
- Duration:  first 2 years (CUHK) + last 2 years (THU)
- Opportunities to widen their horizon
- First intake is expected in 2022-23
- QS World University Rankings: CUHK (8th) & THU (3rd)

For more details:
https://www.cse.cuhk.edu.hk/admission/csctu/

# Contact Us

📞 (852) 3943 4269

✉️ ug-admiss@cse.cuhk.edu.hk

🖱️ www.cse.cuhk.edu.hk

📷 cuhkcse

📘 cuhkcsedept

▶️ www.youtube.com/channel/UClI0dSTad1sZkh5W3rVE3A6w

See you in Fall 2022 !

# FAQs

FAQ Contents:

Q1: Will there be any interview?

Q2: How many students will admit to BCSEN in 2021-22?

Q3: Will there be any exchange opportunity?

Q4: Will there be any scholarship or financial aid?

Q5: What are the career prospects of CENG/CSCI graduates?

Q6: What is ELITE Stream? How can I join it?

Q7: How can I declare a stream?

Q8: Can I transfer to AIST or other majors in Year 2?

Q9: Can I declare AIST / CSCI / CENG as second major or minor?

Q10: I am still struggling to choose AIST / CSCI / CENG. What can I do?

# Q1: Will there be any interview?

# Interview Arrangement (JUPAS)

- We plan to arrange interviews in mid-/late June, 2022.

- We only consider Band A applications for shortlisting.

- Shortlisted applicants will receive an invitation email for the details, *e.g., date, time, format, etc.*

- Stay tuned! Check your email regularly for the latest update!

# Interview Arrangement (Non-JUPAS)

- Interviews will be conducted in batches from ~Jan. 2022.

- You are encouraged to attach adequate supporting documents, *e.g., transcripts, predicted grade, certificates, etc.,* in your application for our holistic review.

- Shortlisted applicants will receive an invitation email for the details, *e.g., date, time, format, etc.*

- Stay tuned! Check your email regularly for the latest update!

# Q2: How many students will admit to BCSEN in 2021-22?

# Intake Quota

- BCSEN (JS4412):
  Computer Science and Engineering

  Intake Quota: ~**103**

For more details:

https://dse.bigexam.hk/zh-hk/pathway/progs/jupasProg/JS4412

# For your reference...

Statistics

- Number of CENG & CSCI students in recent years

| | Year 2020 | | Year 2019 | | Year 2018 | |
|---|---|---|---|---|---|---|
| | CENG | CSCI | CENG | CSCI | CENG | CSCI |
| **JUPAS (Broad-based)** | 21 | 86 | 16 | 50 | 21 | 61 |

# Q3: Will there be any exchange opportunity?

# Exchange to Overseas Universities

- You are encouraged to join the exchange programme to broaden your horizon and learn with peers from diverse background

- List of some overseas universities for the exchange
  » Macquarie University, Australia
  » University of Toronto, Canada
  » Shanghai Jiao Tong University, China
  » Telecom & Management SudParis, France
  » Royal Institute of Technology (KTH), Sweden
  » University of California, Davis, USA

  …

Submit you application via Office of Academic Links (OAL)!

# Q4: Will there be any scholarship or financial aid?

# Scholarships and Financial Aids

- The Government and the University offer various scholarships and financial aids depending on student's financial situation, or their outstanding performance in academic or other areas

- List of some scholarships and financial aids
  - » Admission Scholarships
  - » Scholarships for Overseas Studies
  - » Government or University Financial Aid
  - » Summer Subsistence and Travel Loan Scheme
  - » Student Residence Bursary Scheme
  - …

Check out more details at
the Office of Admissions and Financial Aid (OAFA)!

# Q5: What are the career prospects of CENG/CSCI graduates?

# Career Prospects

- Employers of our graduates include:
  - » Google
  - » Intel
  - » Microsoft
  - » IBM
  - » Apple
  - » Facebook
  - » Yahoo
  - » Deloitte
  - » Hong Kong Government
  - » Investment Banking Institutes
  
  … …

# Career Choices

- ☑ Entrepreneur
- ☑ Systems programmer
- ☑ Mobile app developer
- ☑ Database administrator
- ☑ Management/IT consultant
- ☑ Researcher
- ☑ Bioinformatics specialist
- ☑ System consultant
- ☑ Data analyst
- ☑ Web and content developer

- ☑ Network administrator
- ☑ Game designer/programmer
- ☑ Medical imaging specialist
- ☑ Software engineer
- ☑ System analyst
- ☑ Systems administrator
- ☑ Network engineer
- ☑ Data miner
- ☑ Systems integrator
- ☑ Business analyst

# Q6: What is ELITE Stream? How can I join it?

# Engineering Leadership, Innovation, Technology and Entrepreneurship Stream (ELITE Stream)

- Offered by the Faculty of Engineering to students with excellent academic performance.

- Challenge yourself with additional coursework, invaluable extra-curricular activities, exclusive stimulating and inspiring courses, special exchange opportunities, *etc.*!

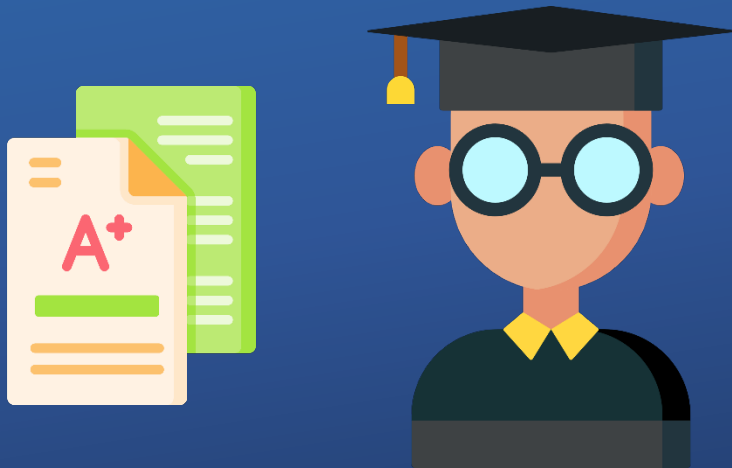Check out more details at the Faculty of Engineering!

Q7: How can I declare a stream?

# Stream Declaration

- You should check and **complete the required courses** of the respective stream.

- You will be invited for the stream declaration in the **final year** of study.

- You can declare in **at most one stream**

## CENG Streams

1. **Embedded Systems**
2. **VLSI Design and EDA**

## CSCI Streams

1. **Intelligence Science**
2. **Database and Information Systems**
3. **Rich Media**
4. **Distributed Systems, Networks and Security**
5. **Algorithms and Complexity**
6. **Data Analytics**

# Q8: Can I transfer to AIST or other majors in Year 2?

# If you look for AIST / other majors instead…

- You may submit application for change of major (to AIST or other majors), subject to prevailing regulations stipulated by RES and approval by relevant unit(s).

- If you are determined to go for AIST, you may choose JS4468 / AISTN as your first choice directly.
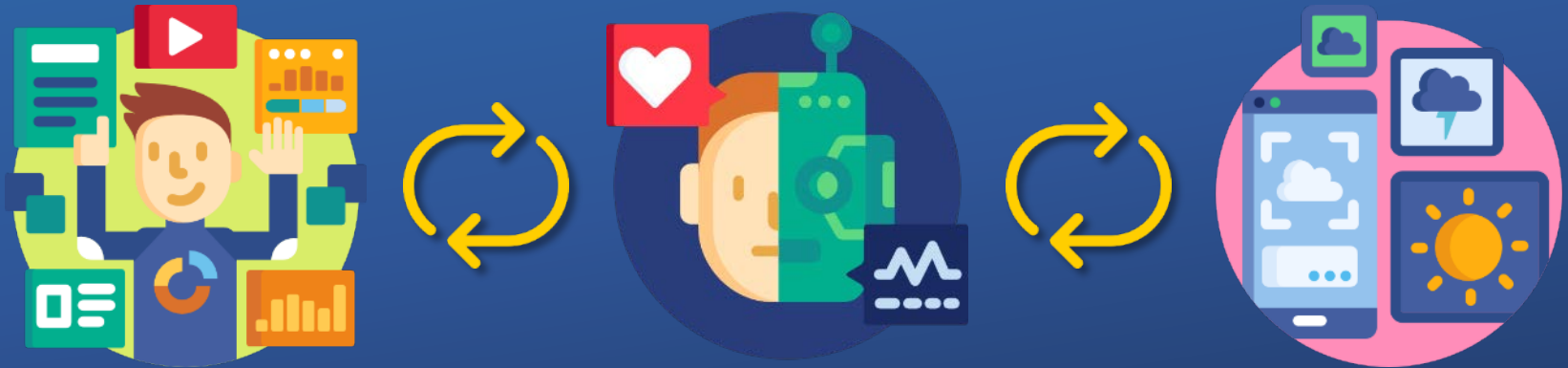
# Declare Second Major / Minor

- You are not allowed to declare AIST / CSCI / CENG as your second major or minor if you are a CSE student.

- However, you are encouraged to broaden your horizons and declare second major / minor offered by other departments.

Q10: I am still struggling to choose AIST / CSCI / CENG. What can I do?

# If you are still struggling to choose…

- You can go through our website and admission materials for a better understanding before submission, and write to us via email to ug-admiss@cse.cuhk.edu.hk whenever you have any queries.

- You can join our outreach activities in the future and chat with our teachers and student ambassadors.

- You can also subscribe our social media channels to receive the latest updates from us! Stay tuned!