Computer Science (CS) 組
What is Computer Science?

• What people think ...

- 使用軟體?
- 寫程式?
- 維修電腦?

➢ Computer science is much more than the above.

What is Computer Science?

• Computer science is the science that studies what computer can (or cannot) do.
• Then use computer to solve real world problems.
• What is computer?

• Now computing is involved in every part of our lives.
Major Tech Advances (Recent)

• AlphaGo Beats Go Human Champ (AI, ML)
• First Bank ATM heist (Cybersecurity)
• Pokémon Go (VR, AR, Cloud Gaming, ...)
• Electronic (Mobile) Payment (EC, Sensor, ...)
• Ransomware, Bitcoin (Cryptography, Network Security)
• ...
Leading Hi-Tech Companies

- Apple
- Google
- Facebook
- Amazon
- ...
- Intel
- IBM

They are all related to computer science!
Internet of Embedded Things

- Everything will connect to the Internet and have intelligent.
Mobile Computing

Tablet

Smartphone

Wearable Device
Cloud Computing

http://www.ictna.ir/id/071031/
Wireless Networking

Security, Privacy

https://www.iti.illinois.edu/education/illinois-cyber-security-scholars-program-icssp
我要用數據說服你

圖片來源：www.todaysparent.com

Big Data

http://pansci.asia/archives/43117
What we need after Big Data

- No human is able to go through these data.
- However, machines can do that.

Intelligence

- Data
  - Raw: Red
- Information
  - Meaning: South facing traffic light on corner of Pitt and George streets has turned red
- Knowledge
  - Context: The traffic light I am driving towards has turned red
- Wisdom
  - Applied: I'd better stop the car
Why study Computer Science?

Source: http://cs.calvin.edu/documents/computing_careers
Why study Computer Science?

Annual Total U.S. STEM Jobs Thru 2022 vs. Recent College Grads


Source: http://cs.calvin.edu/documents/computing_careers
CS 組核心課程

大一
- 計算機程式
- 計算機概論

大二
- 離散數學

大三～大四
- 資料結構與程式設計
- 作業系統
- 計算機結構
- 演算法

十選二
- 實驗
- 網路與多媒體實驗
- 嵌入式系統實驗

必修課
- 理論類
- 硬體類
- 軟體類
CS 組教師群

張耀文  陳和麟  陳良基  陳銘憲  陳少傑  鄭振牟

賴飛羆  郭斯彥  黃寶儀  鄭士康  黃俊郎  黃鎮揚

李宏毅  李琳山  雷欽隆  廖婉君  王凡  王勝德

于天立  顏嗣鈞  魏宏宇
Conclusion

• Computing is ubiquitous of everyday life!
  • Says the impact of computer scientists to the society

• CS group – a choice of career prospective and societal impact.