

## **CS100383 - Presentation: Brief Introduction of branches of Computer Science**

[From MTU] Computer science is a discipline that spans theory and practice. It requires thinking both in abstract terms and in concrete terms. The practical side of computing can be seen everywhere. Nowadays, practically everyone is a computer user, and many people are even computer programmers. Getting computers to do what you want them to do requires intensive hands-on experience. But computer science can be seen on a higher level, as a science of problem solving. Computer scientists must be adept at modeling and analyzing problems. They must also be able to design solutions and verify that they are correct. Problem solving requires precision, creativity, and careful reasoning.

Computer science also has strong connections to other disciplines. Many problems in science, engineering, healthcare, business, and other areas can be solved effectively with computers, but finding a solution requires both computer science expertise and knowledge of the particular application domain. Thus, computer scientists often become proficient in other subjects.

Finally, computer science has a wide range of specialties. These include computer architecture, software systems, graphics, artificial intelligence, computational science, and software engineering. Drawing from a common core of computer science knowledge, each specialty area focuses on particular challenges.

**Requirements:** Working in groups of 5-6 students, choose one of the topics of computer science to give a brief introduction for presenting before all of us, AND submit a 1 to 2 pages scientific report before the 15th week by each of you. The topic can be either specific or broad, make sure your presentation contains its history, research contents, applications, etc. The following are several topics for your reference (YOU ARE ENCOURAGED TO CONTRIBUTE YOUR OWN TOPIC).

1. Database 数据库
2. Computer information security 计算机信息安全
3. Computer graphics 计算机图形学
4. Artificial intelligence 人工智能
5. Computer architecture 计算机系统结构
6. Cloud computing, Internet of things 云计算、物联网
7. Software engineering 软件工程
8. Embedded system 嵌入式系统
9. Multimedia technology 多媒体技术

- 10. Computer network 计算机网络
- 11. Electronic business 电子商务
- 12. Open Source 开源
- 13. Hackers 黑客

**Techniques:**

**For presentation:** Use Microsoft PowerPoint, Keynote or other free software to demonstrate your presentation.

**For report:** Using Microsoft Word ([IEEE template](#)) or Latex ([IEEE template](#)) to write the report. Please strictly conform to the format of a scientific report ([how](#)). The suggested title of your report can be “The overview of XXX” or “The Technical Trend of XXX” or other similar titles.

**Evaluation:**

**For presentation:** You will present your topics during the Project Evaluation (see the schedule of your class). The evaluation of each group takes 10 minutes and everybody shall have a chance to present.

**For report:** Each of you, please hand in your own report in PDF file before the 15<sup>th</sup> week

**Bonus:** Best presentation materials will be made online.

**Notice: PLAGIARISM IS STRICTLY FORBIDDEN!**

抄袭是严格禁止的! (see [why](#))