

VEX IQ STEM Career Readiness Online Challenge Computer Science

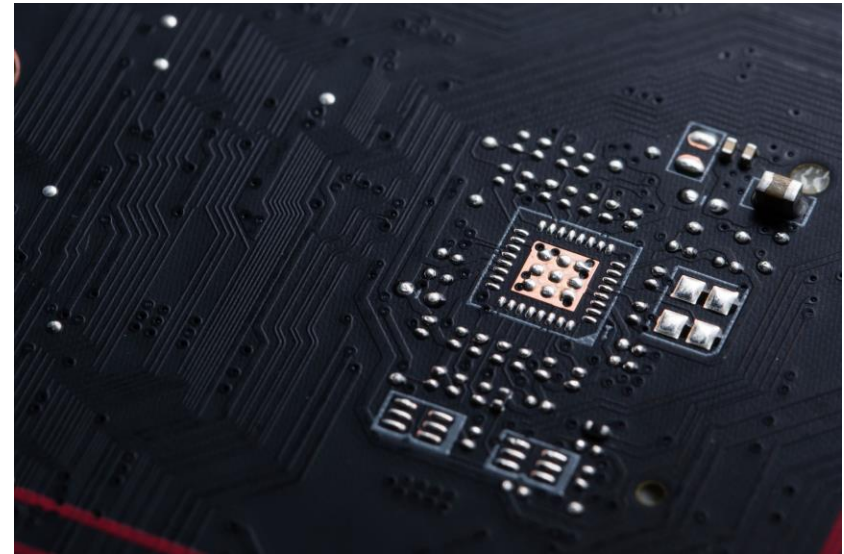
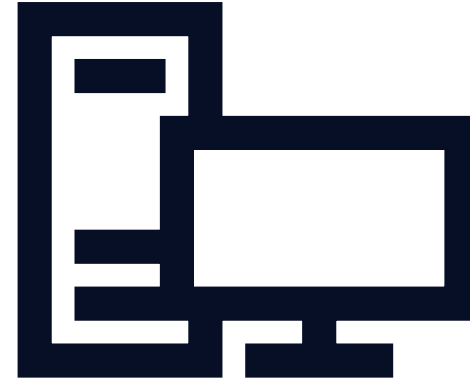
Team 2929B

Computer Science: An Introduction

What is Computer Science?

Computer Science is the study of learning Computer algorithms and machines. Computer science can range from theoretical studies of algorithms and implementing hardware and software.

<https://undergrad.cs.umd.edu/>



Why Computer Science?



Computer science is one of the most important jobs yet, there still need more people to fill up the missing spaces. The job can be done by anyone with the right skills. The jobs you can apply for with learning computer science are unimaginable, which are but not limited to software developer, hardware engineer, web and game developer, and many others.

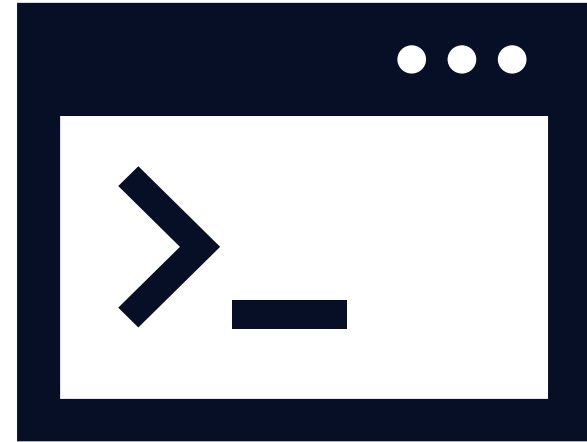
Areas of specialization as computer scientist

- Applied Mathematics
- Digital Image/ Sound
- Artificial Intelligence
- Microprogramming
- Bioinformatics
- Networks And Administration
- Computer Architecture Networks
- Cryptography
- Computer Engineering
- Operating Systems
- Computer Game
- Development Memory Systems
- Robotics
- Computer Graphics
- Simulation And Modeling
- Computer Programming
- Software Development
- Software Systems
- Data Management
- Web Development
- Design Databases
- Parallel Programming
- iOS Development
- Mobile Development



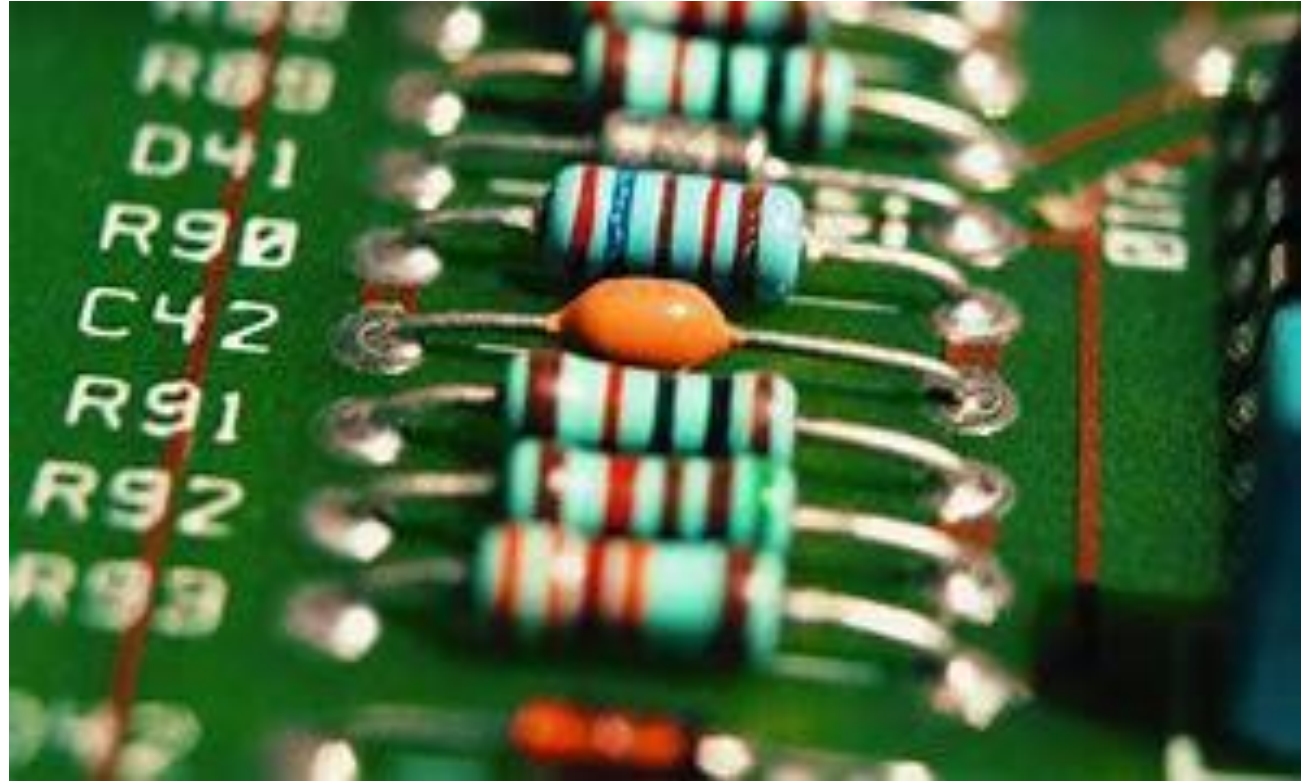
What does Computer science do for us?

Computer science helps us give the technology we have around us and gives new entertainment. Computer science also helps fix and improve technology constantly.



What does Computer Science Require?

Computer science requires, Algorithmic problem-solving, Computing and data analysis, human-computer interaction, and many others.



What Jobs Can You Get From Learning Computer Science

The Jobs you can get are Computer game development, computer graphics, software development, web development, robotics, microprogramming, and many more. All require some levels of learning about how technology works and thinking and producing new technology to help society or improve the quality of it.



How's it like to Work in a Computer Science Career?



Computer science is a hard career to be able to get a degree in. Though, computer science relies a lot on data, surveys, reports, and a well understanding of a computer's brain. Cite

Cyber security?

Cyber security is thought upon either way too little or way too much depending on who you talk to. The ones that keep all of people's works on the internet, or stopping hackers trying to attack a website or game are computer scientists.



Oh, the Places You'll Go!

Being a computer scientist will require a lot planning so you might have to travel to meet up with other team members to help with producing new ideas for technology that may most likely help many people around the world.



Larry Page:

Google co-founder, Larry Page is known for inventing the search engine along with Sergey Brin. He created the innovative PageRank search engine algorithm that created the foundation of Google Search.

Bill Gates

Microsoft co-founder and is considered as one of the smartest computer programmers.

Mark Zuckerberg

Facebook CEO, Mark Zuckerberg changed the way people interacted on the internet and maintained friendships. Facebook has connected billions of people together regardless of geographic distance.

Ken Thompson

Thompson is one of the pioneers of computer science. He implemented the original UNIX operating system, which powers various smartphones, military systems, operating systems, and benign networks. Cite

The Most Influential People in computer science (continued)

Linus Torvalds

The father of Linux. Torvalds created Linux kernel, which became the backbone of Linux OS, Chrome, and Android. He also created the version controlling system Git.

Ada Lovelace

The English mathematician is the world's first computer programmer. Born in 1815, Lovelace was much ahead of her time. She recognized the analytical engine which can be built for purposes beyond just number crunching. Lovelace examined how technology can be related to human and society.

Alan Turing

The computer scientist, mathematician, and logician, Alan Turing is the creator of the Turing machine, which simulates computer algorithms. The machine played a vital role in deciphering codes used during World War II. Alan Turing is considered the hero of World War II and the father of modern-day computing.



Best countries to study computer science

- USA
- UK
- Canada
- Australia
- Cyprus
- Germany
- New Zealand
- Finland

Top 10 Computer Science Programs in the World

1. Massachusetts Institute of Technology (MIT)
2. Stanford University
3. Carnegie Mellon University
4. University of California - Berkeley
5. Harvard University
6. University of Cambridge
7. Princeton University
8. University of Oxford
9. University of Toronto
10. ETH Zürich



Use of Computer Science in Medicine

Medical Imaging: magnetic resonance imaging (MRI), ultrasound, CT scans and X-Rays. All these devices are controlled by computers.

Patient Monitoring: Modern computer-based patient monitoring machines allow heart rate, respiratory activity, blood pressure and other critical vital signs.

Computer-Assisted Surgery: robotically-assisted surgery (RAS), which allows surgeons to use robotic devices and computer software to complete minimally-invasive procedures.

Network and Digital Communication: email, instant messaging, video chats and webinars.

Telemedicine: Thanks to computers and smartphones, some medical professionals use video chats to visit with patients remotely.

Medical Database: computers store databases of information related to diseases and health statistics.

Medical Research, Explain. Cite



Robotics

Computer Science + Robotics

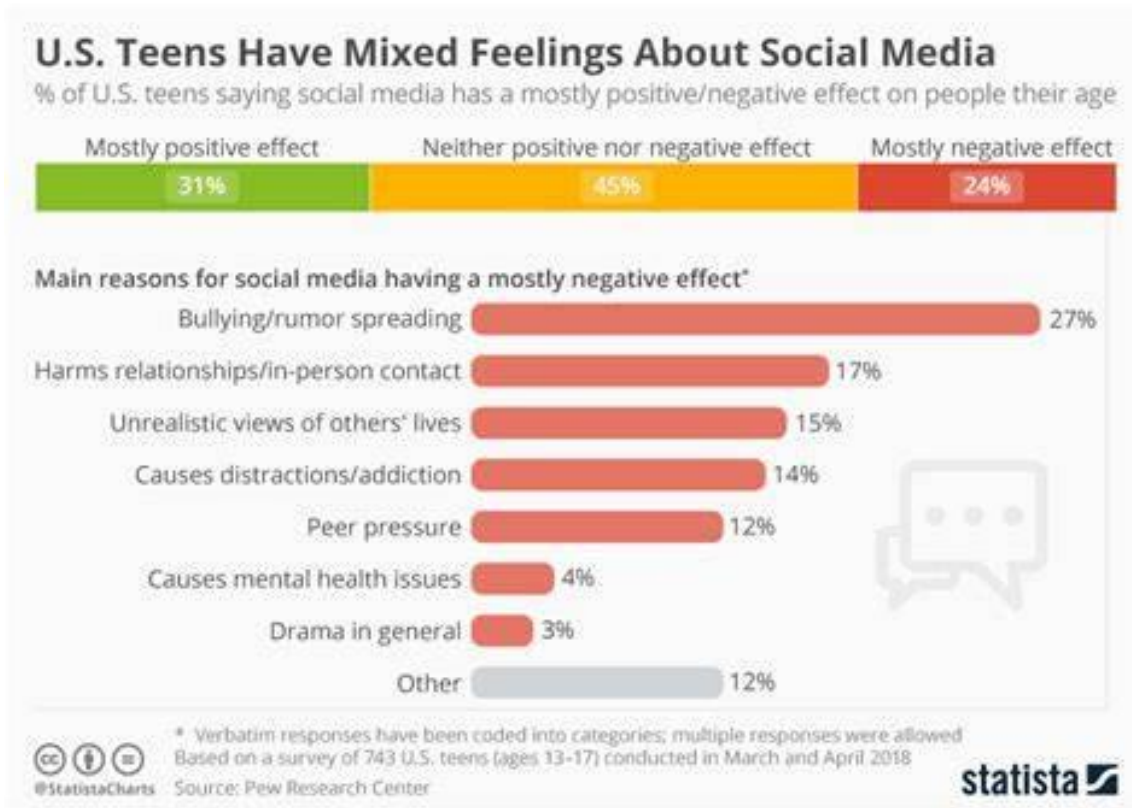
Computer Science and robotics go hand in hand. Educational robotics serves Computer Science education in many ways.

First, robots are fun. Also, the everyday relevance of robots in the lives of students provides a natural and authentic hook for student learning. The process of developing coding solutions with a robot provides a relevant context for engaging students in Computer Science.

The VEX Computer Science curriculum continuum will provide students with a fun and engaging way to learn authentic applications to Computer Science concepts. Cite



Why Computer Science Can Help Society



Computer Science and just the internet can help multiple people improve their life and there rarely a negative effect on humans with devices and can often have a positive effect on people.

Computer Science Salary

- With computer science being such a popular career the salary for the jobs have gone up, which means you get paid more for doing something you love and are quite fond of.
- The average salary of computer engineer in the United States is \$102,450 per year, which is 106% higher than the average U.S. salary. Our latest research found that new college graduates can earn an average salary range of \$61,000 to \$76,000 per year. Found on www.computercareers.org/computer-engineer-salary/#:~:text=The%20average%20salary%20of%20computer%20engineer%20in%20the,salary%20range%20of%20%2461%2C000%20to%20%2476%2C000%20per%20year.



Multiple careers with Computer Science

Working in computer science means that there are many industries and career paths that will need you. These don't include only the obvious positions like in information technology and software development.



Computer Scientists Don't Work Alone

Computer scientists rarely work in isolation. Whether they work for private companies, public organizations, government agencies, the entertainment industry, or for themselves, they must be in contact with internal and external stakeholders. Therefore, communication is key. Computer scientists may even be teachers, in which case, both patience and communication are of utmost importance.



The Learning Never Stops

Because technology is always evolving, there are always new techniques to learn. Additionally, new problems and challenges continue to arise. Therefore, those who have knowledge in computer science can help to overcome such challenges and make a difference in the field.



The Opportunities are Endless Around the World

Majoring in computer science allows you to both study and work internationally. The need for computer science is not designated to one region. Although there are hubs around the world where computer science is peaking, such as Silicon Valley in California, there are opportunities everywhere to work in the field.



Job satisfaction

Masters portal references a study done in the UK where they found that “the job satisfaction in IT is double that of the national average for other work sectors.” That says that those with a career in computer science really enjoy the work they do and the environment they work in. Computer scientists get to put their passions into their work and really find a way to help society with new technology.



Software Engineer

Computer software engineers design the programs that run on computers in homes and offices all over the world. You may work closely with clients and businesses who need new software to fully understand what it is they are wanting. As an application software engineer, you may create computer games or programs that assist in increasing productivity.

As a systems software engineer, you may be responsible for creating software that runs the computer itself, the operating system. In either case, once you've designed the program, you would send it off to a computer programmer to write the program you've conceptualized.



Computer Information Systems Manager

A computer information systems (CIS) manager works with other staff members as they ensure that a company's computer systems - both hardware and software - are installed correctly and upgraded regularly. As a computer information systems manager, you would work with other executives to determine future equipment requirements and how best to utilize the equipment that the company has on hand. You may research new products, software, and hardware to make sure your company is using the most efficient equipment and stays up to date. With this career your most likely to be well at making choices and mathematics with all the prices of new equipment



Computer Science skills can be empowering

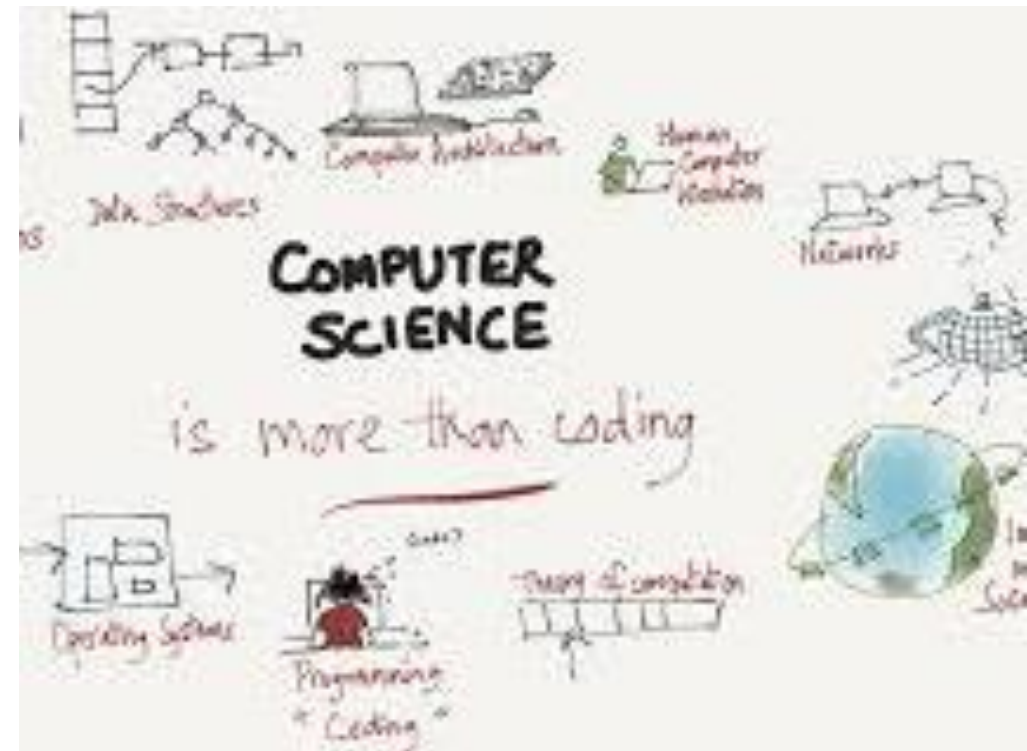
Understanding various coding languages and what makes them work means computer scientists have the skills to build apps, tools and software programs from the ground up. This is a valuable skillset in the digital age, but the satisfaction of building something from scratch is just as important.



Computer Science benefits society

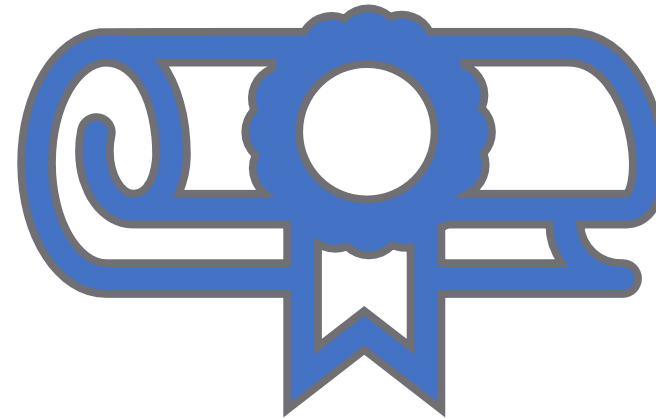
Computer scientists play a large part in shaping the future of our world and bringing benefits big and small to all aspects of society. These tech pros have the ability to make waves in fields like healthcare and education, while empowering underserved communities and increasing equality along the way.

There's no shortage of challenges in the world, and the skillset of computer science professionals can be instrumental in solving many of them.



You Will Have a High Standard of Living Once You Graduate

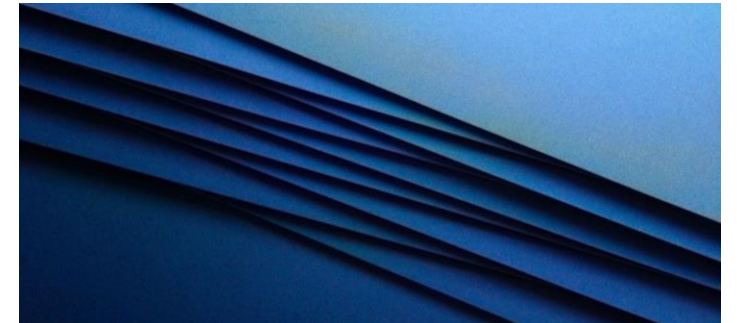
Font Most computer science graduates end up working in highly paid positions that include a wide range of additional benefits. During your working life, you will be more likely to have a higher standard of living and a more secure future than you would have if you follow a different career path.



It's Easier to Progress

A computer science qualification is an impressive addition to any resume. If you decide to go on to bigger and better things, future employers and educational institutions will take this into account. You will be eligible to apply for more senior roles and more advanced courses later.

Before you make up your mind about what course you intend to enroll in, it's worth considering a computer science course. If you feel that you are a suitable candidate for this type of course, it could be the best decision you ever make.



Future of Computer Science

Computer Science is an exciting and constantly evolving field with virtually unlimited growth.

As mentioned through this presentation, it is well-known that computer technology touches just about every part of our lives today—from the cars we drive, to the shows we watch, to the way's businesses and governments deal with us. Understanding how to identify and solve real-world problems using technology is at the core of Computer Science and is highly sought after in today's job market.



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