What can I do with a major in...
Computer Science

Computer and information technology impacts many areas of our daily lives from downloading a song to driving a car. Because many of our daily tasks involve the use of technology, computer scientists can be found in nearly all professional sectors, including big technology firms, government agencies, startups, nonprofits, and local businesses, both large and small. Computer science majors possess a broad variety of skills that make them valuable to all businesses and there is an increasing need for industry to have knowledgeable computer professionals.

At the heart of the computer scientist is a passion to benefit society by solving problems through computer and information technology. They conceive, design, and test logical structures for solving problems by computer and find ways to do so by designing applications and writing software to make computers do new things or accomplish tasks more efficiently. This may include, creating applications for mobile devices, writing web-based applications to power e-commerce and social networking sites, developing large enterprise systems for financial institutions, creating control software for robots, programming the next blockbuster video game, or identifying genes for the next biotech breakthrough.

All of these advancements may involve writing detailed instructions that list the order of steps a computer must follow to accomplish a necessary function, developing methods for computerizing business and scientific tasks, maximizing efficiency of computer systems already in use, or enhancing or building immersive systems so people are better able to socialize and interact with technology.

Computer scientists often work on a more abstract level than other computer professionals. Positions are not limited to traditional technology fields either. More and more computer science is becoming necessary in every job category, while the computer technology industry is emerging as a new creative field.

INDUSTRIES
- Aerospace
- Automotive manufacturing
- Communication
- Computer-aided design
- Consulting
- Digital communications
- Electrical hardware
- Environmental agencies
- Factory automation
- Federal safety agencies
- Finance
- Hardware design
- Healthcare
- High speed computing
- Industrial/food products
- Information management
- Insurance
- Manufacturing
- Medical technology
- Product development
- Software development
- Systems consulting
- Technology
- Telecommunications

EMPLOYERS
- Amazon
- Apple, Inc.
- Best Buy
- Cognizant Technology Solutions
- Cray
- Epic Systems
- Facebook
- Fast Enterprises
- General Dynamics Mission Systems
- Google
- IBM
- Infinite Campus
- Medtronic
- Microsoft
- National Instruments
- Open Systems International
- Target Corporation
- Thomson Reuters
- TripAdvisor
- Unisys
- UnitedHealth Group/Optum
- Wells Fargo

CSE Career Outcomes
Average Starting Salary: $73,854*
Post-graduation Outcomes:*
**TECHNICAL SKILLS**

- Agile
- C#
- C++
- CSS
- Eclipse
- Excel
- GUI
- GWT
- HTML
- Java
- JBehave
- Linux
- Mac OS
- Mathematica
- MATLAB
- Microsoft SQL
- MotionLab
- NetBeans
- Scheme
- Scrum
- Server
- SQL
- Subversion
- Test Driven Development
- UML
- Unix
- Visual Basic
- Windows

**POSSIBLE POSITIONS**

- **Application developer:** Develop, create, and modify general computer applications software or specialized utility programs. Design software or customize software for client use with the aim of optimizing operational efficiency.
- **Computer programmer:** Write and test code that allows computer applications and software programs to function and turn program designs created by software developers into instructions a computer can follow.
- **Computer support specialist:** Provides technical assistance to computer system users in person, via phone or from remote location. They provide assistance concerning the use of computer hardware and software.
- **Computer systems analyst:** Study an organization’s current computer systems and procedures and design information systems solutions to help the organization operate more efficiently and effectively. They bring business and information technology (IT) together by understanding the needs and limitations of both.
- **Database administrator (DBAs):** Use specialized software to store and organize data, such as financial information and customer shipping records. Ensure that data are available to users and are secure from unauthorized access.
- **Information security analyst:** Plan and carry out security measures to protect an organization’s computer networks and systems. Their responsibilities are continually expanding as the number of cyberattacks increases.
- **Software developer:** Develop computer program and applications that allow people to do specific tasks on a computer or another device. Others develop the underlying systems that run the devices or that control networks.
- **Web developer/engineer:** Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications.

**GET INVOLVED**

- Active Energy Club
- Association for Computing Machinery
- Association for Computing Machinery for Women
- CSE K-12 Outreach
- CSE Ambassadors
- CSE International Ambassadors
- Engineers Without Borders
- Girls Who Code Volunteers
- National Society of Black Engineers
- Plumb Bob Honorary Leadership Society
- Science and Engineering Student Board
- Society of Asian Scientists and Engineers
- Engineers
- Society of Hispanic Professional Engineers
- Society of Women Engineers
- Solar Vehicle Project
- Tau Beta Pi
- TeslaWorks
- Theta Tau

**RESOURCES**

- American Association of Artificial Intelligence: [aaai.org](http://aaai.org)
- Association for Computing Machinery: [acm.org](http://acm.org)
- Computer Science Unplugged: [csunplugged.org](http://csunplugged.org)
- Computer Work: [computerwork.com](http://computerwork.com)
- ComputerScience.org: [computerscience.org](http://computerscience.org)
- Department of Computer Science and Engineering: [cs.umn.edu](http://cs.umn.edu)
- Dice: [dice.com](http://dice.com)
- IEEE – Computer Society: [computer.org](http://computer.org)
- Institute of Electrical and Electronics Engineers: [ieee.org](http://ieee.org)
- Tech Dot MN: [tech.mn](http://tech.mn)

*Salary and Career Outcomes gathered from the 2016-2017 CSE Graduation Survey
Post-graduation outcomes reflect the percentage of students who were employed full-time in their field or were enrolled in a graduate program. For detailed starting salary information see the CSE Career Center website.*