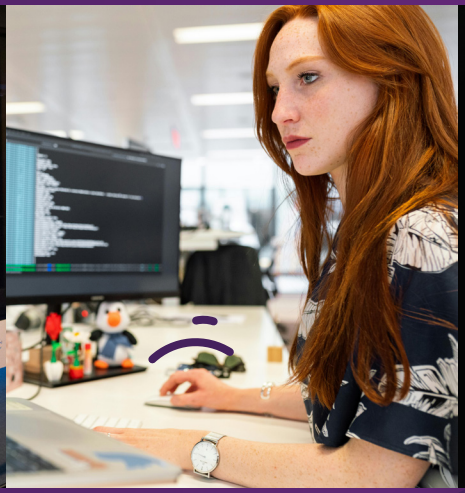
COMPUTER SCIENCE CAREERS

INDUSTRY AT A GLANCE



PLTW
COMPUTER SCIENCE

SOFTWARE DEVELOPMENT

Software developers are the creative minds behind computer programs, applications, and systems that power our digital world.

JOB OUTLOOK
22% growth | 2020-2030
(much faster than average)

MEDIAN SALARY
$110,140 per year

KEY SKILLS

- Programming languages (Java, Python, C++)
- Problem-solving
- Teamwork

DATA SOURCES

U.S. Bureau of Labor Statistics - Software Developers

National Center for Education Statistics - Computer Science Programs

ACM (Association for Computing Machinery) - Computing Curricula 2020

CERTIFICATIONS

ENTRY LEVEL

- CompTIA ITF+
- CLA: C Certified Associate Programmer
- Google Developers Certification
- Oracle Certified Associate: Java SE 8 Programmer
- AWS Certified Developer: Associate
- Microsoft: Azure Developer Associate

MID-CAREER

- Oracle Certified Professional: Java SE 8 Programmer
- CLP: C Certified Professional Programmer
- IEEE: Certified Software Development Professional (CSDP)
- Google Professional Cloud Developer

COLLEGE

Bachelor's degree in computer science or related field; some positions may require a master's

INDUSTRY TRENDS

- Increased demand for mobile app developers
- Growing importance of cybersecurity in software design
- Rise of artificial intelligence and machine learning integration

CERTIFICATIONS

ENTRY LEVEL

- CompTIA Data+
- CompTIA DataX
- CompTIA DataSys+
- Associate Certified Analytics Professional (aCAP)
- Google Cloud Data Analytics Certificate

MID-CAREER

- IBM: Data Science Professional Certificate
- Microsoft: Azure Data Scientist Associate Certification
- Certified Analytics Professional (CAP)
- Google Cloud Certified - Professional Data Engineer

COLLEGE

Bachelor's degree in computer science, statistics, or related field; some positions may require a master's or Ph.D

INDUSTRY TRENDS

- Increasing use of big data across industries
- Growth in predictive analytics and forecasting
- Rising importance of data ethics and privacy

DATA SCIENCE & ANALYTICS

Data scientists extract meaningful insights from vast amounts of data, helping organizations make informed decisions.

JOB OUTLOOK
22% growth | 2020-2030
(much faster than average)

MEDIAN SALARY
$126,830 per year

KEY SKILLS

- Statistical analysis
- Machine learning
- Data visualization
- Programming (R, Python)

DATA SOURCES

U.S. Bureau of Labor Statistics - Computer and Information Research Scientists

National Science Foundation - Science and Engineering Indicators

IEEE Computer Society - Top Technology Trends

CYBERSECURITY

Cybersecurity professionals protect computer networks, systems, and data from digital threats.

JOB OUTLOOK
33% growth | 2020-2030
(much faster than average)

MEDIAN SALARY
$103,590 per year

KEY SKILLS

- Network security
- Ethical hacking
- Risk analysis
- Incident response

DATA SOURCES

U.S. Bureau of Labor Statistics - Information Security Analysts

National Institute of Standards and Technology (NIST) - Cybersecurity Framework

CISA (Cybersecurity and Infrastructure Security Agency - Cybersecurity Resources

CAREER PATHWAYS

CERTIFICATIONS

ENTRY LEVEL

- CompTIA Security+
- ISC2: Certified in Cybersecurity (CC)
- ISC2: Systems Security Certified Practitioner (SSCP)
- GIAC Information Security Fundamentals (GISF)
- Google Cloud Cybersecurity Certificate

MID-CAREER

- CompTIA Cybersecurity Analyst (CySA+)
- CompTIA PenTest+
- ISC2: Certified Information Systems Security Professional (CISSP)
- Certified Ethical Hacker (CEH)
- Certified Information Systems Auditor (CISA)

COLLEGE

Bachelor's degree in cybersecurity, computer science, or related field

INDUSTRY TRENDS

- Increasing sophistication of cyber threats
- Growing demand for cloud security specialists
- Rise of IoT (Internet of Things) security challenges

CAREER CONNECTIONS

Computer science offers endless opportunities for innovation, problem-solving, and career growth. See the journeys others have taken as they've pursued their careers in the computer science space.

GUIDO
Game Developer

RAINY
Software Engineer

SHERRY
Web Developer

JEFF
Information Security Consultant

pltw.org/curriculum/pltw-computer-science

PLTW
COMPUTER SCIENCE

Whether you're passionate about creating innovative software, uncovering insights from data, or safeguarding digital systems, a career in computer science offers the opportunity to make a significant impact. By building knowledge and skills in computer science before graduation, you'll be well-prepared to thrive in this exciting and dynamic field.

About Project Lead The Way

As a nonprofit organization created by teachers and led by educators, PLTW is proud to reach 2.5 million students in elementary, middle and high schools in all 50 states. With over 100,000 trained teachers nationwide, PLTW brings relevant, hands-on learning to classrooms across the country. For more information on Project Lead The Way, visit **pltw.org**.

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