

What Can You Do with a Computer Science Degree?

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This paper will prove to you just how valuable a degree in Computer Science can be.

You can change the World with a Computer Science Degree. Computer Science is connected to everything. It enhances everything we do. Computer Science is a growing career field that will provide you, as a Computer Science Degree earner, with a wealth of possible careers and high salaries. This field is very much in demand. As time moves on and we become even more technologically advanced, the things that you will be able to do with a Computer Science Degree will only continue to increase. A Computer Science Degree is most definitely worth the time and effort that you will spend working on it.

A Computer Science Degree can teach you how to create and improve software. If you possess this knowledge, then you have extremely marketable skills. The Computer Science Field has become very popular with anyone who is hoping to find a job with an excellent salary. This field focuses on the study of software systems. A Computer Science Degree will allow you to pursue a variety of careers. Due to the increase in technology use throughout the business community, companies in a variety of different industries are hiring people who possess Computer Science Degrees (Kowarski, 2019).

Salvatore Stolfo is a Computer Science Professor at Columbia University in New York City. Stolfo stated, "It's a golden age right now for Computer Science, and we're very fortunate in this field." Salvatore also stated, "For people who study Computer Science in their education, it's a great, great time, and essentially the sky is the limit." Stolfo has a faculty appointment, along with being the Founder and Chief Technology Officer of Allure Security. Allure Security is a data security firm that keeps its clients' sensitive data safe. Stolfo believes that it is very important for those who possess Computer Science Degrees to realize that their degree will be useful almost anywhere. He states, "There's no particular region of the U.S. where Computer Science is not in demand. Choose where you want to live, choose who you want to work for, and pretty much you will find a job or position there and for them (Kowarski, 2019)."

A Dice Salary Survey performed in 2017 showed that Application Developers make an average of \$105,202 per year. This was an increase of 7.6 percent over the year before. Programmer / Analysts made an average salary of \$91,404. Overall, technology professionals earned an average salary of \$93,244 in 2018. It appears, no matter what source or survey that is consulted, that Computer Science Degrees pay off in the long-term. In 2017, the Michigan State University's Collegiate Employment Research Institute (CERI) reviewed data from hiring companies and recruiters that sourced talent from the colleges. It reviewed approximately 200 career service centers and 4,350 employers in the United States. Upon reviewing the data, they found that the average starting salary for graduates with Computer Science degrees was \$57,762, with a lower range of \$15,000 and an upper of \$130,000. They found that Computer Programming ranked higher on the list and had an average starting salary of \$59,163 (Swanner, 2017).

The employment forecast dated April 2019 from the U.S. Bureau of Labor Statistics website showed that the number of job opportunities for Computer Science graduates is growing. This forecast shows that employment within Computer and Information Technology occupations should increase by 13 percent between 2016 and 2026. This increase is much quicker than the average among all occupations. Data from the Bureau of Labor Statistics indicates that some people who possess Computer Science Degrees may find jobs that pay six-figure salaries. For example, in May 2018, the median salary for Computer and Information Research Scientists was \$118,370. The median salary among Computer Network Architects was \$109,020. Software Developers also usually receive high salaries. For example, in May 2018 the median salary for Software Developers was \$105,590 (Kowarski, 2019).

Edward Lazowska is a Professor at the University of Washington. Lazowska studied the Bureau of Labor Statistics (BLS) data. He found that a Computer Science Major was the only STEM degree where the demands of employers matched the graduation rates. A Computer Science Degree can be difficult and challenging to obtain. This can be especially true for anyone who is brand new to programming when they begin their degree. It can be difficult to maintain your focus on a potential

career payoff when you are immersed in code and other computer-related tasks. Despite this, data does show that this degree is an excellent career path. Computer Science will always remain a valuable quest for anyone who would like to pursue a career in Technology (Swanner, 2017).

Sam Gavis-Hughson is the CEO and Founder of Byte by Byte. Byte by Byte is a company that helps aspiring Software Engineers prepare for job interviews at respected technology corporations, such as Amazon and Facebook. Gavis-Hughson believes that people who aren't truly interested in technology shouldn't pursue a Computer Science Degree simply because they want to earn a high salary. He states, "I think that a lot of people are doing it for the money and not doing it because they enjoy programming." Gavis-Hughson has a bachelor's degree in Computer Science from Princeton University. He believes that Programming is only enjoyable for people who possess an aptitude for problem-solving. He stated, "Not everyone has that really analytical sort of mind." Gavis-Hughson does believe that a Computer Science Degree has broad applications. He stated, "One of the greatest things about a (Computer Science) degree is that it allows you to work in whatever industry you desire." He also stated, "Every single industry requires programmers, so you can decide what path you want to pursue." For example, you could become a Software Developer and work for Warby Parker and work on fashion projects. You could work for Google and work on artificial intelligence projects. You could also work in the automotive industry and write software for vehicles. This degree offers endless possibilities. The only limit will be your imagination (Kowarski, 2019).

Justin Sherman is a college junior at Duke University in North Carolina. Sherman is double majoring in Computer Science and Political Science. He believes that technology has a large role in our current society. Sherman believes that an education in Computer Science can enhance one's understanding of our World. He states, "Whether it's in your day-to-day life as a citizen in our World or just as a consumer, you're going to be interacting with a variety of these technologies, online, with smart devices (and) in your vehicle." Sherman also works as a Cybersecurity Policy Fellow at New America, which is a public policy think tank that is based in the District of Columbia. Sherman states, "A computer science degree is sort of a way to unlock understanding how all of that works, how all of

that functions, how all of that interacts. Computer science touches every field. Its knowledge and applications are everywhere, from disease prediction in health care to automation in manufacturing to data privacy regulation in state legislatures." He believes an education in Computer Science will provide people with all the training that is needed to invent new technologies. Sherman also believes that it will allow people to recognize improvements that can be made to current technologies (Kowarski, 2019).

Dianna Xu is the Chair of the Computer Science Department at Bryn Mawr College in Bryn Mawr, Pennsylvania. Xu states, "Whatever you think Computer Science is, you're wrong." Liz Burd is the Pro-Vice Chancellor in Learning and Teaching at the University of Newcastle in Australia. Burd states, "It's more than everyday computing. It's building the tools that enable everyday computing." One of the biggest things you will learn as a Computer Science major is how to logically think through a problem and then formulate a way to solve it. Chris Stephenson is the Executive Director of the Computer Science Teachers Association. Stephenson believes that great Computer Scientists will have a thorough understanding of what teamwork entails. They will also possess excellent interpersonal skills and will be great communicators. As a Computer Scientist you will work with other people all the time. The people you will work with will have different backgrounds, knowledge, and personalities. Some of them may not even have a Computer Science background. Stephenson states, "No matter how brilliant you are, at some point you will have to explain to someone how your product works or what your code does (VanderMeulen, n.d.)."

Bobby Schnabel is the Dean of the School of Informatics and Computing at Indiana University in Bloomington. Schnabel is also the Chair of the Association of Computing Machinery's Education Policy Committee. Schnabel states, "Some students go into Computer Science because they like working with computers. Others want to solve problems with technology. Whatever your passion, a CS degree is a great foundation for all kinds of jobs." Computers help all of us perform daily activities, including those that are routine and tough. If you have a Computer Science job, you will be helping to design technologies and software that will make everyone's lives and job easier and much more efficient.

Computer Scientists use technology to solve simple and complex problems. They write software to make computers perform new tasks or accomplish current tasks much more efficiently. Computer Scientists create applications for mobile devices, develop websites, and program software. They can be found working almost anywhere, from large technology firms and government agencies to start-ups and nonprofits (VanderMeulen, n.d.).

Computer software is incredibly powerful. Something is always evolving in the World of Computer Science. With a degree in Computer Science you will be involved with all these changes, inventions, and progress. Computer Science is a very innovative career field. During your journey as a Computer Science Major, you will learn how to take a problem and break it up into smaller and more manageable pieces. You will also learn new programming languages (VanderMeulen, n.d.). If you decide to pursue a Computer Science Degree, you will see an ever-increasing number of job opportunities that will be available to you. Computer Science jobs usually will pay a high wage and have excellent benefits. Your coursework will be challenging, innovative, and rewarding. You will also be able to find a job very quickly. Almost every business will need at least one person to oversee their computer equipment, devices, and network. Almost everything we do in our personal and professional lives will involve a computer in some form or fashion (Milic, 2017).

Hannah Pierce-Hoffman is a Software Test Engineer at ASML. ASML is a technology company that designs and sells manufacturing systems for semiconductor chip manufacturers. She recently received her bachelor's degree in Computer Science from Columbia University. She believes that this degree is very useful to have. She states, "Almost every type of company relies on software infrastructure to some degree; almost every new technology being developed has some type of software component. Additionally, studying Computer Science teaches you to solve problems very clearly and logically, which is a skill that can be applied in any field (Kowarski, 2019)."

When you have obtained your degree in Computer Science, you will be well-equipped to become a Software Developer. This job is currently in demand because people need their computers to run software. There are also many additional careers to choose from (Milic, 2017). These careers

include Data Scientist, Software Tester, Web Developer, Systems Analyst, Business Analyst, Product Manager, Network Architect, Software Engineer, Software Developer, Full-stack Developer, Engineering Manager, User Interface Designer, Database Administrator, Cloud Computing Engineer, Information Security Analyst, Computer Science Professor, Chief Information Security Officer, Software Quality Assurance Manager, Information Technology Specialist, Mobile Application Designer or Developer, Research and Development Scientist, Computer Scientist, Computer Science Researcher, Artificial Intelligence and Machine Learning Engineer, and many more (Kowarski, 2019).

A career in Computer Science will allow you to choose from a variety of companies and ways in which to work. There are onsite jobs available with a diverse variety of types and sizes of organizations. Work from home or online jobs are also available. Typically, Computer Science jobs will allow you to be flexible with your schedule and have ownership over your time. With home-based or online jobs, there are even additional options, such as the ability to live anywhere you wish. All that is needed for this type of job is Internet access and a computer. The jobs usually offer high salaries. Job security is another benefit. Also, if you need to leave your Computer Science job, you will be quickly able to find a new one. This degree and career can be difficult and very challenging. You will need to be highly motivated, excited by challenges, pay excellent attention to details, have excellent customer service and interpersonal skills, and be an excellent problem-solver (Milic, 2017).

Greg Law is a Co-Founder and Chief Technology Officer at the Undo software company. Undo has operations in the United Kingdom and the United States. He has a Ph.D. in Computer Science from the City University in London. Law believes Computer Science positions are abundant and that there are many great jobs available to you if you possess a Computer Science Degree. He states, "I'd recommend Computer Science to anyone who feels they have or may have an affinity with it. Programming is a creative and fun endeavor – it's the act of creation and problem solving. And unlike most other creative roles, demand for good programmers far outstrips supply; the opportunities are diverse, and the financial rewards can be significant. The top tech firms in Silicon Valley routinely pay

seven figures a year to new graduates, and even signing on bonuses that can immediately pay off all your student debt (Kowarski, 2019)."

Greg Law states, "The great thing about a (Computer Science) degree however is that today every company is becoming a software company, so a degree in Computer Science gives you access to a more diverse range of opportunities and industry than almost any other qualification." Constantine Coutras is a Computer Science Professor and the Chairperson of the Computer Science Department at Montclair State University in New Jersey. Coutras believes that anyone with an interest and talent for Math and Science to pursue a Computer Science Degree (Kowarski, 2019)." Once you have graduated from a college or university, you will be able to quickly begin your adventure in the Computer Science Field. A college or university will provide you with real-world job experience and a degree in Computer Science. This will ensure that you have a high level of probability of finding an excellent job with great benefits and a high salary. A degree, real-world experience, and a high-level of knowledge will set you apart from other job applicants and help you conquer the competition. Computer Science is our present and our future. This field is both diverse and very fast moving. It saturates many areas from Science to Industry. It plays a very important role in all facets of our society. You cannot go wrong with a degree in Computer Science (Milic, 2017).

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