

# Fields Report

Computer science, software engineering, and information technology all pertain to the use of computers. However, they can all be distinguished very clearly from each other since each has their own areas of focus.

To start off, computer science is a field of study involving the manipulation of data at its simplest form and using that data in order to create more complex processes. The most fundamental concept of computer science is the use of technology in order to solve problems. This can be done through the use of code from a variety of different programming languages, hardware enhancements, or in several other forms.

Next, software engineering is the field of work that revolves around the production of different software. This includes different stages such as brainstorming, planning, development, maintenance, and evaluation of the computer software. This requires some knowledge in both engineering practices and programming languages in order to design and produce well-built software.

Lastly, information technology is the maintenance of computers within a system to guarantee that the computers are functioning up to standard. This can include the troubleshooting of different issues regarding a computer's software or hardware.

Computer science also has other areas of focus, all of which use computer science in some way. For example, hardware, networking, and artificial

intelligence all use computer science in their own way but still, have their own differences.

Computer scientists that focus on hardware tend to focus on enhancing the physical machine itself. For them, it is important that the computer can run efficiently. They work on this by engineering circuits and designing different chip architecture (AIHorizon, n.d.). Working on the motherboard is a major area hardware specialist put their attention to since it is the backbone of the computer.

Additionally, computer scientists can also focus on the networking of computers and other devices to be interconnected. Their job is to get devices linked on a network to transmit data to other devices or the internet in the most efficient manner (AIHorizon, n.d.). This is done through several different protocols, commands, blueprints, and algorithms in order to create a system.

Finally, one of the more complex areas of focus would have to be working on artificial intelligence, also known as AI for short. There are some problems that humans are not able to solve, at least not in a timely manner. That is why AI specialists will use computers in order to solve these difficult problems for humans. For humans to do this, they had to develop computers to use algorithms that would give them the ability to learn in order to behave in the way a human would (AIHorizon, n.d.).

Personally, I have started to gain an interest in data science. Data science is a growing field that pertains to the acquisition and analysis of data for useful intelligence. In a way, it is a combination of computer science and statistics,

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which I also have an interest in. I have been working with computers for some time already and I have confidence in my mathematical abilities as well. I felt that having skills in a growing area would be very beneficial to me since the demand would be higher than in most other fields. Furthermore, a data scientist has a very important role that contributes to a team and that sounds like something I would be proud to be a part of.

#### Works Cited

AIHorizon. (n.d.). *Fields of Computer Science*. Retrieved from  
[http://aihorizon.com/essays/basiccs/general/cs\\_areas.html](http://aihorizon.com/essays/basiccs/general/cs_areas.html)