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Computer Science Fields Report

Computers are electronic devices used for either home, work, or personal matters, etc. For the most part, everyone knows how to use a computer and how to take care of one. But there's more to know about computers than simply just using one. Computer science is known to be the study of computer hardware, software, and the tools and parts needed to make a computer work effectively. In today's world, computer science deals with all sorts of fields such as software engineering, information technology, etc. and it's known to be tons of powerful jobs that pertain to computer science because of all the benefits that it provides such as the money you are making, what programs you've always wanted to create, etc. Even though there's trial-and-error involved when working in these fields, the hard work will pay off. There are many other fields of computer science and programs that people use to make computers even more efficient.

When it comes to distinguishing among computer science, software engineering, and information technology, there are many differences between the three. Computer science must deal with the studies of algorithms, data structures, programming languages, systems for computers, and tons of mathematics for program testing. In other words, the nooks and crannies of programming and the principles of calculations. Software engineering is different from computer science because it deals with designing and building software systems: There are tons of analysis, design, implementation, requirements, testing, and delivery for a software to work. Information technology is different from both computer science and software engineering as this field of study or work centers around management of a statistics point: There's also a workflow, deployment of hardware and software, systems administration, provisioning, training and staffing to backing up any organization's business objectives. Information technologists may do similar work like software engineers do but only to specify and evaluate new systems, the primary focus is both procedures and preservation.

One of the most known fields of computer science is software engineering. Software engineering is one of the branches of computer science that involves designing and scripting applications for computers and other devices such as cell phones. For software engineering to work, it needs to have requirements, specifications, walk-throughs, inspections, etc. “There’s also software life cycles that are created when a software is developed, it’s not just coded, and these life cycles will evolve over time” (Dale). There are also valid points on how software engineering is applied in computer science. Donald J Bagert from Texas Tech University provides these valid points as he states: “Software engineering is one of the major subareas of computer science and that there has been an increasing trend of software engineering degree programs, … has led to increased interest in software engineering by computer science programs.” He also includes “A model based on a four-course sequence is presented and discussed. This model is then compared to the software engineering component of the computer science undergraduate degree program at Texas Tech University, which implements most of the recommendations made…be used in other types of computer science programs is included.” (Bagert).

Another known field of computer science is computer graphics. Computer graphics is a study of generating pictures, videos, animations (gifs), and films using a computer. This type of graphics is used for whenever you are creating a potential video game or making a video project for a class. There are two main types of computer graphics, the first one is raster graphics (commonly known as a bitmap) which is mainly composed of pixels and each pixel can be either a different color or shade. The second one is vector graphics and it’s defined as representing an image using lines and shapes, it also uses math for points and paths to further describe an image. There are many program applications that pertain to computer graphics such as Adobe Photoshop, Adobe Illustrator, GIMP, etc. Mark Ohloson provides proof on how computer graphics are applied to computer science as he states, “The SIGGRAPH education committee has been considering recommendations for the inclusion of graphics in various curricula for higher education. Several issues of computer graphics in computer science or computer science/engineering curricula are identified here. Recommendations as outlined in this paper… feedback by interested parties is needed and encouraged.” (Ohlson).

Another most commonly known field in computer science is web designing. Web designing is the study and process of creating a website and programmers uses HTML, CSS, JavaScript, and other programs to create a website. Creating a website is a huge responsibility for when programmers want to create their own because they have constantly update their website weekly and they also need to make sure that they are using HTML and CSS coding the right way and they also need to be familiar with designing programs like Adobe Photoshop and Illustrator for their website to look excellent. Web design is a huge part of how computer science is applied because it's a part of programming used in computer science and it also uses programs like JavaScript, jQuery, HTML, CSS, Adobe Dreamweaver, etc. those are the main parts for any computer science student or programmer into creating their own website. Another reason on how web designing is applied in computer science is that web designing is a study that involves around the other sub-fields in the world of computer science such as computer graphic designing, web developing, the web servers and links needed to make sure the website isn't unavailable, and learning new different programs in order to make a website much professional.

In my opinion, the two fields of computer science I'm most interested in would be web design and software developing. I'm interested in software developing because I've always wanted to create my own apps for cellular devices or create a video game for a popular gaming company. I first got interested in software developing by creating a game on a website called Scratch and the game was called "Building Your Minecraft Dream House", when I finished this game it got me thinking of what other games I could come up with if I choose to major in software developing. I'm also interested in web design because I always go on websites for both homework and entertainment purposes and it always gets me thinking "I've always wanted to know how to create my own website and make it look like amazing." I also have been reading books and watching videos on how to build a website, I'm currently working on creating a website using all the knowledge that's been given to me both book and video wise.

The process of making this computer science fields report was long on research and tons of drafts to write an excellent report. For the beginning parts of this report, I first created an outline for what I was going to write for this report and in that outline I wrote about the differences between computer science, software engineering, and information technology. I also used the resources that my professor gave me to make my essay look skilled. I read the questions

very carefully to know what I'm going to write without mistaken reading it wrong and I began to write about three or four drafts based on everything I have. When I completed the first three drafts, I then used Grammarly and the writing center that Florida Gulf Coast University has to make sure that my report is good. I had to make sure that the quotes that I used in this fields report are in the proper format, using proper citations, and make sure there were no grammar errors despite using Grammarly. I was told that I needed to make sure that once that I use a Work Cited page on a blank page because despite putting citations on my report it's still considered plagiarism without having a Work Cited page to give the authors full credit. I finally reread the "Elder Paul Critical Thinking Model" and rewatched the video of "5 Components of Information Literacy" to be extra careful about what I'm writing in this fields report. Once my fields report was done, I read out loud one last time and triple-checked to see if there were no grammar errors and proper citations and thus finished I completed the fields report.

Works Cited

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