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Programmer vs. Computer Scientist:

A Small Distinction with a Big Impact

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A common misconception in computer science is that the titles programmer and computer scientist mean the same thing, when in fact there is a significant difference in what each title implies. The truth is anyone can program. All anyone needs, to become a programmer, are fingers to type and time. However, in order to be a computer scientist, one requires not just the ability to program, but critical thinking skills, problem solving abilities, interpersonal skills, and, most importantly, a genuine passion for the field of computer science. Fidel Briones, a student at Binghamton University, is currently looking for an employment opportunity, and he truly possesses all the characteristics of a computer scientist. Fidel’s impressive portfolio of projects, as well as his past employment experience, have allowed him to develop these skills and interests, making him a unique and highly qualified candidate for any sort of computer science position. It is apparent that Fidel is hardworking and dedicated, which is displayed through the quality of all of his projects.

Fidel’s past projects have taught him many valuable technical skills, as well as soft skills, such as teamwork and time management. Fidel’s first project was a sort of tower defense game which he developed using NetLogo, similar to the one in Figure 1 (Kiwi, 2014).  
 *Figure 1.* Bloons Tower Defense 5, a popular mobile tower defense game

This project taught Fidel to integrate a GUI into his programs and to write a strong back end program which accounted for the various moving pieces in this tower defense game and ensured they interacted properly. As a second project, Fidel decided to improve upon his prototype tower defense game by rewriting it in Java, rather than NetLogo. This second project allowed him to learn how to translate from one programming language to another. Additionally, this project furthered Fidel’s understanding of Java utilities and added to his knowledge of GUIs, a type of user interface. Most impressive of all is his final project, a fully functioning application similar to Reddit, but for studying. What began as a personal project grew to a team effort by five group members and was later submitted into one of Binghamton’s hackathons. Fidel started with the basic idea of creating easily accessible study documents, that you could create and add to, and have them all saved to one forum: a sort of page with links to each of these documents. However, he then decided to tweak the program to allow users to access other users’ study forums, as well as the ability to create sub-forums for each unit of each class. This program required a vast amount of research on the capabilities of Python, but also required a lot of coordination and cooperation among all teammates. Fidel found the most difficult moment occurred when he and a teammate had an argument about how to tackle a major function in their program. This conflict was resolved when, after careful deliberation, they both decided to combine their methods in a way that utilized the best parts of each idea, displaying Fidel’s team work abilities. Projects are essential for obtaining professional skills; however, past work experience is essential for professional development as well.

Past work experience, for any sort of employment, is extremely important. Therefore, Fidel is a highly qualified applicant, considering he has spent the last three years accruing work experience in various different fields. Starting with his work in Mt. Sinai’s CEYE Hospital ER, Fidel obtained a comprehensive view of what it is like to work in a stressful and demanding work environment. This not only shows an ability to handle stress, but also shows an ability to quickly adapt to ever-changing work conditions. However, a hospital is quite different from the corporate environment that most computer scientists work in, which is why Fidel’s second job was designed to teach him what it means to work a more standard work day. One of the most important aspects of this second employment opportunity is that Fidel was able to work under an attorney. Despite the fact that there are no technical skills that Fidel could learn from an attorney, there are certainly many soft skills that he learned, such as team work, professionalism, and, most importantly critical thinking. These three skills are in fact, on the list of the top 10 most valuable skills for employers, according to a recent survey from The National Association of Colleges and Employers (NACE, 2015, pg. 36). Another skill on NACE’s list is technical skill, something Fidel further developed with his work as an instructor at iD Tech Camps this past summer. This work not only allowed him help younger children learn computer science, but also helped reinforce his own technical skills and allowed him to practice explaining abstract concepts, a valuable skillset to have as a computer scientist.

It is difficult to find someone who has the technical skills to write a program, and who can also work on a team, or think creatively. Not only does Fidel possess the necessary technical skills for any computer science position, but he also has learned various skills, such as interpersonal skills and critical thinking, that elevate him from being a simple programmer to a strong and capable computer scientist. This being said, any company searching for computer scientists could truly benefit from the work of Fidel Briones.

References

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