Computer Scientist

Jaimil Dalwadi
ICS4UR
North Park Secondary School
Mr. So

I. INTRODUCTION

Computer scientists study how computer programs work. They work using a lot of theory and theoretical research to improve efficiency and solve problems within computer programs and technologies as seen in [1]. The research done in this paper indicates a pathway to reach this career goal through the description of the end goal, post-secondary needs, and personal compatibility.

II. CAREER PATH

Computer scientists analyze and research methods to improve current or new software programs using their technical problem-solving skills, knowledge of algorithms, and mathematical concepts. Computer scientists can come in the form of IT specialists, systems analysts, software consultants, and software developers. The education required for this career path, regarding the aforementioned types of computer scientists, is typically a Bachelor's in Computer Science (BCS), which takes approximately 4-5 years to complete [2]. Currently, many tech companies however, simply look for experience and don't even require degrees. Computer science is a field which requires a unique combination of skills. Theoretical research requires mathematical knowledge as well as critical thinking skills. Systems analysts and similar jobs related to computer science require workers to have general communication critical thinking capabilities, and digital technology experience as seen in [3]. Computer scientists have a great future outlook in job demand, positions/promotions, and salary. The demand for computer science employment is expected to grow by 15 percent by 2029 according to [4]. Job prospects are great as well due to further promotions to senior-level managers, switches to successful entrepreneurship, and more. The median annual salary in USA was $122,000 USD in 2019 as seen in [4]. This salary is only expected to increase in the future as job demand increases, and ultimately this career path is very promising and stable.

III. POST-SECONDARY PATHS

This career end-goal can be achieved through a variety of paths, some of which don't even require post-secondary education. Despite that, it is safer to certify experience and knowledge through a degree.

A university level program that is perfectly fit for this field is the Computer Science program at the University of Waterloo [5]. The entrance requirements for this program include an average of low to mid 90s and 6 grade 12 courses (Calculus and Vectors, Advanced Functions, English, and 3 University/Mixed level courses). The first year of the program would include courses such as Algebra, Calculus, Designing Programs, Linear Algebra, and two electives. The length of time to complete this degree is approximately 4 years of educational time, and 1 year of work experience through the university's co-op program. The approximate tuition for two terms is a total of $16,000 and extra costs for books for about $2,290. This program has a world-renowned reputation and is my ultimate goal for post-secondary education.

Out of the hundreds of college programs related to computer science, one that stood out to me was Seneca College's Computer Programming program. The entrance requirements for this program include 6 grade 12 courses (Calculus and Vectors, Advanced Functions, English, and 3 University/Mixed/College level courses). The first-year courses Applied Problem Solving, Computing Principles, Introduction to Programming, Database Systems, and more. The length of the program was 2 years of educational time. The tuition for a year is a total of about $3,500 and no extra costs for books.

IV. PERSONAL SKILLS + COMPATIBILITY

I have the technical skills required to solve complex problems related to theory and mathematics in computer science. I have the communication skills necessary to convey my thoughts so that everyone understands. I also have several work habits which would further improve my potential in this field such as self-regulation, commitment, and self-management.

V. CONCLUSION

Ultimately, I think this career end goal is the best fit for me in terms of my compatibilities, my interests, my goals for post-secondary education, and career aspirations.

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