

I am interested in seeking a Master's Degree in Computer Science because I am very passionate about computer science and mathematics, and I feel that I could greatly contribute to those fields. I first became interested in computer science when I matriculated to the University of Virginia and took CS 1113, an introductory CS course. I had an amazing professor, Kevin Sullivan, and really enjoyed the class. I truly admired the way that Professor Sullivan introduced students to the field of computer science by giving a brief history of the subject and major accomplishments that pioneers contributed to the area as well as by using Ldris, a lesser-known programming language, to explain fundamental concepts of computing, including recursion, typeclasses, and overloaded operators. This broad view of computer science opened my mind up to a plethora of possibilities and different areas that I could see myself contributing to. As I was drawn to take more CS classes, I especially became interested in how mathematics can be utilized in computer science. Thus, I was captivated by computer security and how cryptography and encryption are used to enforce this. With my Bachelor of Arts degrees in mathematics and computer science, I believe that obtaining a Master of Computer Science degree will be even more beneficial and fulfilling for me. I would love to have the opportunity to continue studying at UVa, where I obtained my bachelor degrees. An MCS degree is most desirable to me, as it allows more freedom in choosing whether to participate in a project, conduct research, or take more courses.

There are several reasons I have for wanting to obtain an advanced degree. It gives me a chance for intellectual growth. Attending graduate school would allow me to get to know more about a subject that I greatly admire and am extremely passionate about. In addition, it would allow me to both expand and narrow my studies in different respects. I would be able to broaden my studies by taking courses in various subjects like astronomy, biology, chemistry, mathematics, physics, and statistics in order to learn more about how computer science can contribute to those interdisciplinary areas. In contrast, I would also be able to focus more on areas that interest me, such as cryptography and artificial intelligence. Furthermore, taking graduate CS courses will allow me to become an expert in my field. More advanced CS classes, in my opinion, are more interesting than introductory, undergraduate courses since the latter is very broad while the former allows students to learn about more in-depth, interesting concepts. Furthermore, an advanced degree will give me an increased number of career opportunities that are more fulfilling for someone like me who greatly appreciates computer science.

In five or ten years from now, I see myself working for the government to increase the nation's cybersecurity network and prevent hackers from gaining access to important information that they are unauthorized to access. Technology is becoming exponentially more advanced each year, which increases the possibility of a cyberattack and unauthorized intrusions on secure networks. In today's world, graduating with a master's degree in computer science is beneficial in virtually every career, especially cybersecurity. Each day, hackers steal millions of people's identities and are able to access information they are not supposed to. I believe I would be highly satisfied with a career working for the government because I would be able to help prevent these illegal cyberattacks and make the United States' networks more secure. In particular, working for the government would help protect very sensitive, top-secret information from getting into the hands of malicious hackers. A master's degree is required in order to work in most computer security areas of the government.

Moreover, I have also really enjoyed helping students learn. I had a wonderful time peer-tutoring students in high school and being a teaching assistant at UVa. Devoting my time to helping students learn and seeing students finally understand a concept that they were having difficulty with is very fulfilling. As a result, I would also be interested in becoming a professor at a community college. Teaching computer science to undergraduates would allow me to impart a great deal of knowledge of computing to my students, and I would be able to show students how interesting and important computer science is. A minimum of a master's degree is also required in order to work as a professor at community colleges. Perhaps I will work in the government for some length of time and later return to academia to teach computer science courses at a college.

Wherever life takes me and whatever I decide I want to do for a career, an advanced degree in computer science will undoubtedly help me reach my goals. I believe I will succeed and thrive in graduate school at UVa and will largely benefit from growing intellectually, learning more about interdisciplinary computer science areas, refining my knowledge and becoming an expert in areas of computer science that I find most interesting, and having more career opportunities open to me. I would be honored to be accepted into the School of Engineering and Applied Science's Computer Science Department at the University of Virginia. I feel that I have much to offer the CS department because I am dedicated to and passionate about computer science.