

4 December 2022

Graduate Admissions Office

Department of Engineering

Southern Methodist University

Dallas, TX 75275-0221

Dear Alaazar Musie,

I am excited to submit my application for consideration for the Cybersecurity master's program at Southern Methodist University. During my time in pursuit of my bachelor's of science in computer science, I have learned about the many fields that computer science has to offer as I explored the best fit for myself. Computer science is an area that possesses many fields within itself including cybersecurity, but that same statement could be said with cybersecurity as it continues to grow. I am eager to take on this step of my educational journey by exploring the field of cybersecurity and furthering my training. My undergraduate studies have provided me with an abundance of invaluable knowledge and experiences that include collaborating on funded projects in research as well as meeting like-minded colleagues through events and organizations.

I worked as a research assistant for a lab on campus that involved projects in high-performance computing and machine learning where I was able to build a meaningful relationship with professors and Ph.D. candidates with experience in the field. I quickly became involved by contributing to multiple projects and even publishing a paper and poster. These projects were

heavily involved with big data that required me to research algorithms and libraries to handle such an abundance of information. I gained funding for a specific project regarding the reproducibility of the black hole photograph where I collaborated with a team to investigate the reproducibility of the first black hole images. Specifically, I studied one of the three algorithms, SMILI, which was a python-interfaced library for interferometric imaging and used to depict the final reconstructed image of the black hole. Throughout my time there, I developed a workflow with limited information and created documentation for my progress and methods that made the project significantly more accessible to the public. Working at this lab has provided me with experiences and insights I couldn't obtain in a classroom setting which has benefited me greatly in my career.

As I continued to explore my options in research, a professor that taught many of my cybersecurity courses provided an exceptional learning experience and made me hope to further my knowledge in the field. I received the opportunity to work as a research assistant for his lab on campus which involved projects in usability and cybersecurity. During my time there, I focused on investigating methods of bypassing DNS filters as well as mitigations to prevent such attacks. I collected sources of data through web scraping software where I was able to perform qualitative analysis on the attacks and mitigations. I am grateful and appreciative to work alongside him and his team where I gained a better understanding of the field I aim to pursue.

It is clear that cybersecurity is what I want as my career because I am constantly finding myself exploring the opportunities the field has to offer. I volunteer for the cybersecurity club on campus where I teach topics and workshops to over two hundred members of various

backgrounds. This is also where I was able to connect with like-minded colleagues and others in the cybersecurity industry. In addition, I competed and led a team in the Department of Energy's CyberForce competition where colleges are given the chance to test their knowledge and skills by securing a vulnerable infrastructure. There are many tools I learned through my courses that allowed me to apply in a real-world situation such as risk assessment and vulnerability patching. Engaging with the community and learning is something I will never stop doing as I hope to take on a leadership role in the future where I can help others who are interested in the field like myself.

It is without a doubt that Southern Methodist University has had a successful cybersecurity program in the past years which is where I hope to continue growing my career. My undergraduate studies have prepared me to take on a graduate school where I can further develop my skills and connect with others of similar interests. As a Texas native, I am confident that I can quickly fit into the community and make an impact within the program while residing in the great city of Dallas. The courses I took while pursuing my degree have certainly prepared me for the courses offered in the graduate program which excites me, to say the least. Southern Methodist University possesses a mission to cultivate principled thought, develop intellectual skills, and promote an environment emphasizing individual dignity and worth which most certainly aligns with my aspirations. Thank you for your consideration and I look forward to the opportunity to share these ideas with you.

Sincerely,

Jacob Leonard