

Reflection Essay

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Introduction

Throughout my cybersecurity degree program, I developed a strong foundation in technical, analytical, and policy-driven skills. My coursework provided hands-on experience with Linux systems, command-line operations, and scripting in Python to automate tasks, analyze data, and enhance security processes. I also gained an understanding of network security principles, vulnerability assessment, and incident response. In addition to the technical components, the program incorporated interdisciplinary learning through courses in cyber law, ethics, and policy, which helped me understand how security decisions align with organizational standards and legal frameworks.

This combination of technical expertise and policy awareness has equipped me with a comprehensive skill set essential for addressing modern cybersecurity challenges. Throughout my major journey, I have learned many skills using terminals such as Linux, as many lab assignments helped further strengthen my knowledge by applying what I learned in class. Along with learning about hacking and preventing it, I also learned about cyber policies, laws, and the rights of the digital world. Through this, cybersecurity has taught me many disciplines. In the cybersecurity portion of my classwork, I learned how to conduct ethical hacking and penetration testing. Along with finding malware and viruses on different websites and learning the vulnerabilities of many systems. Complementing these skills, I learned cyber law and the policies that go into the ethics of good cyber practices and the wrongs or malicious cyber practices. Through this coursework, I have grasped cyber law, digital rights, ethical decision-making, and the importance of cybersecurity governance. Through my work over these years, I have come to love my major and gained the bountiful knowledge there is to know about it. To one day use it out in the field, dealing with real hackers and preventing malicious attacks. To spread the word about good cyber practices to hopefully change the world, little by little, on how technology should be a tool for good and not for malicious intent.

One of the first skills that I believe is relevant to me is Computer Literacy. Computer literacy refers to the ability to effectively use computers and related technology to accomplish tasks. It involves understanding, navigating, and utilizing software, hardware, and digital tools efficiently and responsibly. This can be in the form of knowing how to use Word or being able to do simple commands in a Linux terminal. This is a major skill for me because being a cybersecurity major means computer literacy is everything. Having the ability to be computer literate is crucial. The three artifacts that I will present will hopefully reflect this.

Research Paper on AI Cars (Microsoft Word)

In one of my courses, I had to research and write about AI cars and create a research paper exploring the future of AI-powered vehicles and their connection to cybersecurity, including potential risks and vulnerabilities. Utilized Microsoft Word to format, edit, and structure the document using features such as citations, headers, and tables of contents, demonstrating proficiency in document creation and research organization. Doing this paper helped me to hone my ability to conduct in-depth research and synthesize complex information into a coherent and well-structured document.

Linux Command Demonstration

Shows the use of common Linux commands to perform basic file management, system navigation, and process monitoring tasks. The commands covered include ls, cd, mkdir, rm, cat, touch, and top. This exercise shows my practical understanding of command lines. This also demonstrates my ability to learn and adapt to different operating systems and their unique interfaces. This experience has honed my problem-solving skills as I encountered and resolved issues that arose during the command-line operations, further solidifying my computer literacy.

Interactive “Family Feud” Game (Microsoft PowerPoint)”

I created a game for my fraternity using PowerPoint. I incorporated custom animations, transitions, and user-friendly navigation to create an engaging and polished presentation. I demonstrated creativity, technical proficiency, and the ability to use digital tools for entertainment and team building. This project helped me learn how to use PowerPoint more effectively and present information in a visually appealing way. I also improved my ability to translate ideas into interactive digital formats, a skill I believe is transferable to many professional contexts.

One of my second skills 2: Linux System / Cybersecurity as a skill is the ability to navigate and utilize the Linux operating system, particularly within the context of cybersecurity. This involves understanding the command-line interface, file system hierarchy, user permissions, and various command-line tools essential for security tasks, such as network analysis, vulnerability assessment, and incident response. The artifact used in my first skill Linux command demonstration, which I previously described, directly showcases this proficiency on a basic level, yet the artifacts used here help portray that I understood and learned the deeper levels of the Linux terminal.

Supporting Artifact 1: CYSE — Passive Reconnaissance

Practiced passive reconnaissance techniques to collect publicly available information about websites and online assets using Linux tools. Conducted OSINT-style discovery to identify potential vulnerabilities, map infrastructure and origins, and assess strengths and weaknesses while documenting findings and observing ethical/legal boundaries. This lab assignment helped me to understand the importance of information gathering in cybersecurity and how to do it responsibly. This demonstrated my ability to navigate and utilize command-line interfaces for practical security applications.

Steganography — steghide (Kali Linux)

I completed a Kali Linux assignment using steghide to embed and extract hidden messages within image files. I gained hands-on experience creating stego files, recovering concealed data,

inspecting metadata, and validating file integrity. This artifact demonstrates my application of practical cybersecurity techniques in a hands-on environment, showcasing my understanding of data hiding and forensic analysis. As steganography initially challenged me, mastering it attests to my growing analytical skills and my capacity to explore complex security measures. This experience helped me develop a deeper appreciation for the nuances of digital forensics and the importance of meticulous attention to detail in uncovering hidden information.

Active Reconnaissance — Kali Linux

Performed active reconnaissance exercises on lab targets using Kali Linux tools, learning how to enumerate services, probe hosts, and gather deeper network and service-level information. Emphasized responsible, permissioned testing and clear reporting of findings for remediation. Doing this lab helped me understand the importance of thorough information gathering before any offensive actions. As it is important for ethical hackers to stay within the boundaries of ethical guidelines and legal frameworks, this exercise reinforced the need for authorization and meticulous documentation.

Then my leadership skills are demonstrated through various experiences, including creating business plans for class projects, supervising a group during a landscaping internship, and mentoring younger players in the marching band.

Business Plan Development

I created a business plan for an idea about AI chatbots for small businesses. It was for my entrepreneurship class. This artifact demonstrates my ability to research market needs, develop a strategic business model, and present a comprehensive plan for a technology-based venture. This helped me gain practical experience in the foundational aspects of launching a new business. I

demonstrated leadership by taking initiative, managing a complex project independently, and communicating a clear vision for a technology-focused venture. This experience strengthened my ability to plan, strategize, and guide ideas into structured, actionable solutions.

Landscaping Team Supervision

I Helped supervise a landscaping team, guiding members to ensure plants and flowers were placed correctly according to the infrastructure map. Demonstrated leadership by providing direction, maintaining organization, and ensuring that project goals were met efficiently and accurately. I wasn't the core leader of the group, but I helped the leader delegate tasks and offer suggestions for easy work and spotting small details that help visualize the bigger picture.

Section Leader – Low Brass, MMB

I served as a low brass section leader for the MMB over three seasons. Provided mentorship, coordinated rehearsals, and supported musical and performance development within the section. Demonstrated strong leadership through communication, teamwork, and consistency. This taught me how to effectively lead a team, mentor peers, manage responsibilities, and solve problems while fostering collaboration and accountability.

In conclusion

The summary, and my experiences throughout my cybersecurity degree program and beyond, have equipped me with all-around skills. Through the different technical coursework with hands-on labs and projects. I have created strong computer literacy skills by being proficient in Linux systems and having a strong foundation and understanding of cyber policies and principles. These technical skills go hand and hand with the leadership experiences that have helped shape me into the leader I want to be

in the future if given an opportunity to lead. As a mentor to my section, and being a guide to help my team under the supervision of my boss. My leadership skills have been honed and increased.

Therefore, the artifacts I have presented range from simple Linux commands to leadership roles. Together, these experiences help me demonstrate and reflect on myself as a whole. As I continue my journey, I am motivated to use these skills in the hopes of promoting security and ethical practices in the effort to make a positive impact on the digital world.