

**Reflective Essay**

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## **My Academic Pathway**

### **Introduction**

An eportfolio is a way to showcase the skills and knowledge you developed throughout an academic journey. The primary purpose of an eportfolio is to collect assignments, evaluate learning progress, and keep track of development over time. According to Forde's article, an eportfolio reflects an individual's understanding of what it means to be a learning professional. My eportfolio emphasizes the knowledge I have gained from Thomas Nelson Community College and Old Dominion University. I had started this journey at TNCC and then transferred to ODU to continue my journey. As I am prepared to graduate from Old Dominion University, I developed several important skills, such as technical skills, writing skills, and critical thinking skills, which are necessary for a successful career in cybersecurity. My technical skills include C++ programming, Linux systems, and critical thinking skills like cyber law and election security. My writing skills have improved through research assignments that allow me to explain complicated ideas.

### **Skills**

The path to developing these skills has been filled with dedication, determination, and hard work. Spending hours studying and completing assignments shows that these experiences have prepared me to transition into the professional world. The challenges I faced throughout my academic journey have strengthened my ability to think critically in any situation; being in cybersecurity, you will face difficult moments regardless. As I approach graduation, I am convinced that ODU has provided me the foundation to succeed in my career. The artifacts I provided in my portfolio show the progress and knowledge I have gained. This journey has been

demanding, but it has also been incredibly rewarding, and I am ready to take the next step and apply my skills to real-world challenges in cybersecurity.

### **Technical Skills**

Technical skills are essential for working in the cybersecurity industry. It includes knowing information technology, mathematics, and programming (Gallagher, 2021). I developed these skills through hands-on classwork at Thomas Nelson Community College and Old Dominion University.

#### *Artifact 1: TNCC Basic Programming Language C++*

This course introduced me to the basics of programming and was the first programming language I studied at TNCC. It was also one of the most challenging courses I encountered. The assignment I provided for the artifact is based on file handling and repetition using “While loops”. When reflecting on this course, I found the experience rewarding. I learned complex coding assignments like memory management, “While loop and For loop”, and data object-oriented programming. This class pushed me beyond my comfort zone. Debugging errors after writing code often felt overwhelming, but with practice and time learning the materials, I gradually comprehend the logic behind the code. This course has strengthened my technical and critical skills and taught me how to approach various problems systematically.

#### *Artifact 2: CYSE270 Shell Scripting*

My second artifact highlights my experience with writing a shell script. This was one of the first cybersecurity-focused courses that I took at ODU. Learning Linux was straightforward. Professor Shoda Vasta helped us install a virtual machine for hands-on lab exercises. In this assignment, I used Nano to write a script that read a number and checked if it was less than 10 using “if statement”. I gained valuable skills like managing user permissions while working on

shell scripts. Additionally, I learned how to crack a password using a wordlist with John the Ripper. This course provided me with essential Linux techniques, which are incredibly useful for cybersecurity protection and ethical hacking.

*Artifact 3: CYSE301 Traffic Tracing and Sniffing Lab*

I took Cybersecurity Techniques and Operations during the summer. Truthfully, out of all my ODU classes, this course was one of the best hands-on experiences. In this class, I used VirtualBox, Kali Linux, and Wireshark to monitor and analyze network traffic; I learned to explore a network system using Wireshark and pfSense to set firewalls; these basic skills are essential for any cybersecurity professional. Another exciting part of the process was using Metasploit to simulate cyberattacks and test system vulnerabilities. This course was challenging since I took it in the summer time, but the skills I gained made it all worthwhile.

**Critical Thinking Skills**

Critical thinking skills are crucial for cybersecurity experts as they face increasingly complex challenges in everyday life. Critical thinking is not just an optional skill, but it is a necessity when it comes to Cybersecurity; by applying critical thinking you can identify system vulnerabilities, evaluate the effectiveness of security measures, and devise strategies to mitigate risks (Institute of Data, 2024).

*Artifact 1: CYSE406 Privacy and Data Protection Letter*

In my Cyber Law class, I learned about the legal aspects of internet regulation, privacy, and policies. The course covered various U.S. laws that impact the digital world and focused on civil and criminal perspectives. During this class, I explored topics like search and seizure. I chose this artifact, which presents a proposal for privacy law to the governor of Virginia. This

proposed letter reveals my critical thinking skills, as I was required to inform the governor about the significance of privacy and safeguarding people's data.

*Artifact 2: CS463 Generate Random Numbers- Assignment 3*

Cryptography for cybersecurity was the most challenging course I took at ODU. At first, I thought it was a simple writing class, but it turned out to be a whole math class. Prior to taking this course, I did not understand how cryptographic protocols like RSA or the Diffie-Hellman key exchange work or their real-world application, but now I have a strong knowledge of their mechanisms and significance in a secure digital communication. I learned in this class how encryption, hashing, and digital signatures are used to secure personal information. I chose this assignment because it exhibits my critical thinking skills by using mathematical methods to understand and generate random numbers effectively.

*Artifact 3: CYSE 300 Cybersecurity Breach- Research Paper*

Introduction to Cybersecurity, known as CYSE 300, was the course that ignited my passion for cybersecurity. This course taught me basic concepts like network security, computer system architecture, and data protection. One of the most exciting aspects of the course was learning how to capture flags—a challenge that involves identifying security system vulnerabilities. This research paper I provided was the first research project I did on data breaches for this course. It helped me understand how cyberattacks happen and how organizations can protect themselves. This research paper shows me how to think critically. Overall, the knowledge, skills and experiences that I had gained from CYSE 300 helped deepen my interest in this field.

**Communication skills**

Reflecting on my communication and writing skills, I had limited writing knowledge in high school. However, when I enrolled at TNCC and took my first English class, ENG 111, I started learning how to write essays correctly. Effective communication has become increasingly important for security professionals to succeed (Admin, 2025). Clear and efficient communication is necessary when collaborating with colleagues. Writing skills are important in cybersecurity, as it often requires interdisciplinary research to report cyberattacks or crimes. With that in mind, my experiences at ODU and TNCC have provided me with strong writing and communication skills which are very essential for my career.

*Artifact 1: CYSE495 Ensure the Integrity of Online Voting Assignment*

In my Cyber Election Security class, I learned about the critical importance of protecting elections with the utmost alertness importance from electronic attacks. We also explored the history and current challenges that cybersecurity professionals face during elections. The artifact I provided shows my writing skills, as it required extensive research to ensure the paper was well presented and clearly communicated the importance of securing our personal information when voting online. This course taught me how to identify vulnerabilities in the election system, such as hacking campaigns and spreading misinformation. It was an interesting class to learn the intricacies behind the internet when you vote online instead of going in person.

*Artifact 2: CRJS215s Mandatory Arrest for Domestic Violence Research Paper*

When reflecting on my Criminology class, we looked at different criminal behaviors and the criminal justice system in Virginia. I also studied various types of crime and victimization. In this class, we had to write a research paper on domestic violence arrests and pick a side. I picked this assignment over the other one because I had to deep dive into research about violence to make my point stand out. However, this class taught me a lot about the Virginia arrest code.

*Artifact 3: CYSE280 Navigating Phishing Attacks – Final Paper*

In my Windows System Management and Security class, we learned about the evolution of the Windows system, as well as how to install different types of applications properly. We had to write a research paper about widows at the end of the course. I wrote about how hackers using Windows systems, sending phishing emails and installing malicious software. I chose this research paper to demonstrate my communication and writing skills.

**Conclusion**

Overall, technical and critical thinking skills, communication and writing skills are important especially when pursuing a cybersecurity career. Throughout my academic journey, particularly at ODU, I have learned and have grown these skills, which would potentially help me in my entire career. As I was reflecting about the past four years in ODU, all the challenges that I have encountered between admission to now, have been eyes opening for me. I did welcome and overcame all of them with success. I am convinced that all these efforts will be paid off in the near future. Now, the moment is coming to graduate and I can say that I am well equipped to turn a new leaf in life.

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