

# **Why I Chose Cybersecurity: Personal Narrative Essay**

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IDS493: Electronic Portfolio Project

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July 10, 2025

### **Why I Chose Cybersecurity: Personal Narrative Essay**

I originally started out messing around with computers and video games, dabbling in some trivial programming skills to enhance the aforementioned. Messing around with networking configurations, bypassing controls and exploring behind-the-scenes mechanics peaked my childhood curiosity, but I originally never thought of the field of cybersecurity. It wasn't until I enrolled at the Advanced Technology Center (ATC), which was a leap of faith, that I began basic security courses, obtained CompTIA certifications, and gained first-hand experience under mentors and a Chief Information Security Officer (CISO). Further experiences have enhanced my ability to navigate the ever-changing cyberspace where security is responding to evolving threats in complex environments.

### **Early Aspirations**

I was around computers pretty much all my life, but they started out only as entertainment. I would sneak on my brother's computer while he was at school when I was only a toddler to play video games. This eventually led to me getting my own devices. While playing video games and becoming a part of online groups, I was exposed to many facets of online culture. As I was playing, one of the prevailing subcultures that emerged was game hacking, but hacking, nonetheless. Regrettably at the time, I learned how to utilize some of these systems. However, this provided me with foundational technical knowledge I would have otherwise passed on learning this early in my life. Along with this recently acquired knowledge was newfound online acquaintances which prompted me to set up communities on online platforms, further prompting me to automate and moderate these communities. I had begun to create Python scripts to add quality-of-life commands and automatically moderate incoming messages based on defined rules by a moderator. I started tinkering with the application inside and out. I ended up

using Node.js to create bots and execute code on connected servers. I extensively tested the bot's limitations, making custom commands, responding to user input, holding a database of user information, and all hosted from my server.

Not everything I did turned out perfectly. I created a keylogger that had a few errors: repeating characters or incorrect capitalization, for example. However, it ended up working and even proved to be invisible for anyone not looking for it and embedded itself into the startup applications, only in deeper analysis of the system would reveal the application. In addition, with C++ and C# I created a .NET Windows application to work alongside the logger, even though it proved more buggy than useful. I also attempted to create my own game servers; however, the third-party hosting was too expensive, and I had begun to learn how to create and host my own server using port forwarding methods. I ran into hardware problems, such as overheating and intermittent hangups due to processor intensity and ad-hoc network configurations. I had to take a new approach, look at my firewall options, the router itself, or the internet connection not being strong enough. During troubleshooting, I could fix most problems using common sense but other times I had to get creative. If that didn't work, I would resort to "Google it."

### **The Plunge**

Before hearing about ATC through some fliers at school, I had no idea cybersecurity courses existed, let alone at the high school level. This was a program created through a partnership between Virginia Beach City Public Schools (VBCPS) and Tidewater Community College that allowed higher-level students to enroll in alternative college courses for college credit, and in addition supplied vouchers for major certifications. After completing the courses and achieving my CompTIA Network+ and Security+ certifications, I felt confident in my initial abilities.

### **Practical Application**

It didn't take long for me to get my hands on my first real taste of cybersecurity "action." During my second year of ATC, I was selected by the director of this ATC program, including other educational divisions, to spearhead an additional program to also earn practical experience through city, state, and other sponsored vendors. My specific task was to be a Cybersecurity Intern at the City of Virginia Beach Information, Security, and Privacy Office directly under the acting CISO at the time. While my time was limited at this position, it afforded me a plethora of knowledge of the inner workings of enterprise environments. This highlighted the ever-present nature of risk management and the dark side of bureaucracy in an ever-evolving environment. I began to see cybersecurity as more than just a technical discipline. I noticed how it is a complex balancing act between protecting sensitive systems and navigating political, procedural, and bureaucratic realities. This changed my perspective on my already newborn idea of the cybersecurity field. I realize that behind every policy was a calculated risk, and behind every alert or control was a team of people working to ensure the resilience of critical systems.

### **Old Dominion University**

By the time I was applying for colleges, I was already locked in. Cybersecurity was the path for me. I can't pinpoint a specific reason as to why, however, I just know that it clicked, and I figured that I loved the continuous learning aspect of the field. ODU was the sole college I applied to, as it had the best cybersecurity program in the state at the time based on my research. Not to mention, ODU had a dedicated school for cybersecurity whereas most universities were treating it as an addition to most established engineering programs. The first year felt like a continuation of high school, considering the general education courses, but I made amends towards that as I was nearing the end of my first semester. By November 2022, I had stumbled

upon Handshake, a career development platform at ODU which also hosts ODU student-hourly positions. Finding this early on allowed me to find the listing to apply to the ODU ITS Help Desk, now ODU IT Help Desk. Not only has this position built off the original knowledge exposed to me throughout my cybersecurity internship with the City of Virginia Beach, but it has also expanded upon this knowledge while exposing me to completely new ideas. I am also able to apply the content I have obtained through my ODU courses in a practical setting as I am troubleshooting with users on various issues.

### **Personal Passion Projects**

As I've gone through coding development courses alongside my standard cybersecurity courses, I've identified ways to enhance my previous applications and build more practical applications. Most notably I've created my Playground-MVC PHP framework which I intend to set up as a Composer package for public use. This has allowed me to visualize and understand the HTTP/HTTPS protocols in much greater detail than any lecture. I've been able to create an online repository and platform for myself, in addition to the capability of hosting a web-based honeypot to further analyze perceived web threats. Furthermore, is my exploration of web sockets, particularly with Python, Bash, and PowerShell scripts. I've explored simple ways of creating reverse shell connections that allow for remote command execution on a connecting client's device.

### **Conclusion**

In conclusion, I've always been around technology, it just took me quite some time to realize the potential for a career. I never would have put my foot on the gas if it wasn't for the timing of VBCPS's newly founded programs and the streamlined experience I've had at ODU.

I'm incredibly fortunate to have found something I enjoy learning and participating in so early.

While I never believe I have been perfect in any aspect of the field, I feel as though each day I'm learning something new or refining some skill which will benefit me for years to come in a dynamic, security-focused environment.