

Newport News Shipbuilding Internship

CYSE 368

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## **INTRODUCTION**

One of the most daunting tasks of my college career was trying to find an internship. I was under a lot of pressure as finding one was difficult, and I worried I would find one that wouldn't help me to expand my knowledge and advance my career. There weren't a lot of cyber-focused internships that I could apply for at the time and many of the one's I could apply for required a GPA or certification I haven't achieved. I was very fortunate that I found a place to help get some real-world experience and despite all the hurdles I had to jump over, I felt my experiences helped shape me into a more professionally driven person ready to enter the work force. I hope to cover my experiences through the hiring process and on the jobs and what my overall takeaways I got from this position.

## **ABOUT THE COMPANY**

Unlike some others who had just recently gotten their internships, I started mine back in September. I was fortunate to find a co-op position at Newport News Shipbuilding (NNS), a division of the overhead company Huntington Ingalls Industries (HII) which also owns Ingalls Shipbuilding and Mission Technologies. NNS is the largest ship manufacturing company on the east coast and the US Navy's sole manufacturer of nuclear-powered aircraft carriers as well as one of two providers of nuclear-powered submarines. Located in the heart of the city of Newport News, Virginia, the offices of this company are spread across the city and the shipyard is stretched for two miles along the waterfront of the James River. I heard of this company from some good friends of mine who are alumni of ODU saying they enjoy their tenure here and my fiancé started an internship and part-time position during the summer of 2023. This gave me

reasons to believe this company could potentially be looking for any cybersecurity or IT prospects that could end up with a position coming out of college. Seeing as they deal with their fair share of sensitive or even classified data, they were bound to have some form of IT department that manages the overall functionality of their security programs and consistent implementations of updating software across the company.

### **THE HIRING PROCESS**

Back in the Fall of 2023, I applied for the summer internship program. After completing an interview during an on-campus event NNS held, I felt that I had a good chance of being selected for the program. However, I waited for months only to hear nothing back, which gave me concerns that I would never find a position. Despite the discouragement I later applied for their Fall IT Co-op program and got accepted. I received a call from one of their Talent Acquisition specialists in charge of the Co-op program and she gave me a rundown of the hiring process. A few weeks later, I interviewed over the phone for two different departments, one involving construction planning for submarines and the other an engineering department working on aircraft carriers. I later got accepted into the submarine division and I underwent a long and extensive on-boarding process that included drug screening, a physical, and a federal background check. This all took place over the summer and took about a month to complete before I started my new position.

## **MY ROLE**

The division I worked for was titled X39 and they oversaw the Construction planning for the new Columbia Class Ballistic-Nuclear Submarines currently still in development. These new submarines are meant to replace the currently in service Ohio-class submarines that have been in use since the early 80's. The department is separated into multiple divisions that handle different aspects of the planning process such as build strategy, management of the critical chain of events, and keeping digital records of activities and relevant parts and drawing numbers. I was placed into the Build Strategy division and was tasked with creating construction narratives based on project plans and events that lay out the construction process of different components and modules of the ship. These narratives were essentially "LEGO manuals" used by the trades to layout where parts and components are installed and fitted onto each module.

## **TOOLS AND PROGRAMS**

Working here provided me with an opportunity to learn how to use and work with a variety of different programs to complete my projects given to me throughout the duration of my internship. The main program I used to complete tasks was called Teamcenter. It was a centralized portal that held a database for a variety of parts, drawings, and work packages that could be displayed on their visualizer called Vizmock. Each part was modeled and published through the use of Auto CAD and other 3d modeling software to show the construction process that I inserted into my construction narratives. These were all access through a virtual machine program created by Citrix that was developed and maintained by General Dynamic's Electric Boat. I used Microsoft Project to show the overall construction process and who was responsible

for each activity. I also was able to show how long completion for each step could take based on a variety of factors such as assembly time, transport of materials, what manufacturing bays are available, and what steps needed to be completed first before a step could start. I created my narratives using Microsoft PowerPoint and had to create company approved templates to match the uniformity of other narratives created before mine.

### **CO-WORKERS**

During my tenure here, I had a chance to work with and mingle with a variety of co-workers who all came from different backgrounds and worked on their respective projects. Each team member was given a specific module of the ship to work on and create plans and narratives to give to the trades for their references. They would also communicate with them to get specific details about any delays, any errors in the plans they were given, or what new plans new need for modules they are beginning to work on. Each person I had a chance to talk to was friendly and made me feel welcome as a part of their team. They each had advice to give on how to effectively and productively complete my projects and shared stories of their past and present experience working for the company. They also took me on tours of different manufacturing bays to see where all the trades assemble the ships and I even had a chance to tour inside of an almost completed submarine. The biggest influence on my work was my navigator, Sean. He helped me get situated into this new environment and helped me ease my anxiety of learning new techniques and tool's I've never heard of before. I also had plenty of chats about our hobbies such as video games, Dungeons and Dragons, and football and he and I grew close. He also helped me complete my first few projects so I could get the hang of things before I was given tasks to complete on my own. He would also take me to sit in at meetings in the yard discussing

any changes that need to be made to the production planning team's workload and to work with others on changes to the databases used by the department.

### **OFFICE ENVIRONMENT**

The place I worked at was an office building located off of Washington Ave. in Newport News. It was 6 stories and had a help desk station on the first floor and a catered cafeteria on the top floor of the building. Every time I showed up for work, I was required to badge into the front security desk to validate my status as an employee and to prevent any unemployed personnel from entering the building. My floor was filled with cubicles for my department as well as separate departments working on their own ships and duties. My workplace was in an office suite that had 2 desks back-to-back from each other and was partially secluded from the department's row of cubicles. It often made day-to-day interaction more difficult as many people didn't travel far from their desks, me included, as we were all busy completing our projects. We had a breakroom area equipped with microwaves, refrigerators, and a water dispenser that was routinely stocked. Parking situations for this building were a pain as most of the trades people coming in at 5-6am took up most of the lots provided outside the building. Not to mention there were reports of vehicle breaks in on this outside lots and I didn't want my car to fall victim to one of these incidents. I did, however, find a parking garage that was more secure and had a shuttle stop that took me from there to my building, which made parking much easier for me.

## **MY MANAGEMENT**

My manager Ron Ellesworth was my department's "M2", other wise known as our direct supervisor. He oversaw the day-to-day operations of myself and my co-workers and assigned projects for us to work on in a timely manner. Ron has been an employee of NNS for 40+ years and had been given the distinguishment of "Master Shipbuilder" for his years of service. Ron personally interviewed me over the summer about the position and he and I had a great conversation about my experience in college and how much he enjoys his work. He always checks in on me to make sure I'm doing good and making good progress and he always encourages me to ask questions about concepts I don't know about so he can ensure I get on the same page as him and the rest of the team. Although being much older than I am, we find times to talk about things we both enjoy such as golf, shooting sports, and everyday occurrence in our lives. He is fair but he is also stern. He wants to make sure the work our department puts out is done to the best of it's ability and wants us to be punctual in completing tasks and projects. He also asked that I check in with him every so often to report on my progress and to give any suggestions and changes he wants made to my work so it's as close to perfect as possible. He has been flexible with me coming into the office during the week to fit around my class schedule and wants me to communicate if I'm going to be late due to traffic or unable to make it in due to prior commitments or illness.

## **MY WORK**

My first month in the office was relatively slow on the work side as I had to be formally entered into the systems for NNS and for EB to get authorized access for the programs I would

be using to complete my projects. So, I started off by completing companywide trainings about work ethics, day-to-day operations, cybersecurity, navigation of the shipyard, and how to accurately charge my time. I then moved over to reviewing previously completed construction narratives and project plans to get a good idea on how these are compiled and created. I shadowed under some of my co-workers to see what their assignments look like and how to use the programs I would soon get access to. Once I finally gained my proper clearance, the brunt of my work was for the build strategy division of X39 which involved me creating project plans for each ship module and it's components as well as the construction narrative PowerPoint presentations that display the visuals of the assembly process. Unfortunately, I cannot attach any of the PowerPoints or project plans I completed as they contain sensitive information that only NNS personnel can view. I will, however, tell you which modules I worked on vaguely. I worked on the Weapons Module Trusses, the Weapons Tank Module, as well as the AMR1 Tank for a variety of ships in development. My work on these projects tended to be very slow due to the limitations of what I have access to and how fast the Citrix workspace is being. Often times the load times of logging into the virtual desktop could take up to 10 minutes and loading up Teamcenter and the visuals I was working on could take up to 30 minutes. It doesn't get better as loading up new work packages containing visuals also takes a considerable amount of time and often find myself with "Not Responding" frequently appear on my tab. However, patience is key as the work I did was very detail oriented and being able to spot the slightest asset out of place is key to ensure a smooth workflow and no bounce back on submitted projects



## **MY CHALLENGES**

Overall, I enjoyed my experience here working for NNS. I was presented with a positive work environment, and I made a lot of connections. My only complaints are that I wasn't placed into an IT/Cybersecurity oriented environment. Despite my official job title being IT Co-op, none of the work I have done is relevant to any IT or cybersecurity work you would normally see in an organization. In fact, I felt I was more of a project manager and an engineer than an IT specialist. I made HR aware of this fact as well as my talent representative so they could try and find a department to transfer to. I would only hear small updates about which departments they were reaching out to only to find out come January that they had nowhere for me to transfer to and that I would be stuck in X39 until the end of my internship. This made me upset as they didn't take proper measures to ensure that placement in this department was relevant to my major and my skillsets and now, I was the one that had to pay the price. I did appreciate the help I was getting and my talent rep assured me I wasn't the only one dealing with this situation. However, things didn't get much easier after the company as a whole issued a hiring freeze which eliminated many entry-level job opportunities that could've benefited me coming out of college in less than 3 months at the time. My manager did try to remedy the situation by providing me with some basic troubleshooting tasks for my co-workers such as making sure their computers are running efficiently, but I couldn't do much as I didn't have access to the system's BIOS or could make changes without Admin access.

I also struggled with ensuring I could be to work on time as I had to juggle this job along with my second job and 18 credit hours of coursework. I would struggle to get sleep some nights working on assignments and I would have to wake up very early in the morning to try and get across the water from Norfolk. Both I-64 and I-664 would always be backed up by some kind of

traffic which consistently made me late for work most days. Most of the time I would get chewed out for it despite the circumstances. The option to work from home was only ever granted during times when the shipyard was closed due to severe weather and hitting 20 hours a week was nearly impossible for my schedule.

### **KEY TAKEAWAYS**

Despite my grievances, I think I gained some worthwhile experience from this internship, and I learned how to use many tools that employers are seeking in entry-level recruits. I made some good friends during my time, and I made a worthwhile living while juggling both school and work. One of my biggest takeaways was quickly adapting to a new work environment which is something that I'm still getting used to. My first few weeks were anxiety inducing and I often caught a case of imposter syndrome wondering if I belonged here. I was also worried that I wouldn't be able to learn how to use these new programs I never even heard of and fail miserably at my job. My advice would be to take deep breaths, relax and understand that you are there to learn and that as long as you pay attention and practice your skills, in time you will become an expert. I also learned the importance of casting a wide net in the job world. You and thousands of people every day are looking for internships or jobs and those companies have very slots available. I would advise anyone to apply for as many jobs as they can that they qualify for so that they are more likely to find something that they are looking for. Also have someone look at your resume or attend a resume workshop to ensure important details are established and any unnecessary clutter is cut out. My final advice is to not freak out if the job you earned has little to do with your field of study. Many entry level jobs don't cover all of the topics that you learned through college or getting your certifications and so it's normal to not find yourself fitting in as

well as you intended. Every job should be used as a steppingstone that leads to the next and so taking the skills you learned from the previous one can benefit you once you get the next.

## **CONCLUSION**

Newport News Shipbuilding provided me with a wonderful opportunity to expand my horizons and add new skills to my every growing set. I will admit the internship wasn't what I was expecting to get but it was the one I needed to help me develop into an ambitious young adult that is ready to take on the challenges of tomorrow. I was bummed I wasn't able to display my skillsets as a Cybersecurity major or learn new skills that could apply to a future job, but I hope that the skills I did learn here can apply to my future endeavors. As of now I don't have anything lined up after I leave NNS. I've been on the job hunt for 4 months now and I've been to multiple career and job fairs to try and find a new home after I graduate college but still no luck. I'm still keeping my head up high as I continue to apply for jobs and network with the hopes of someone having room to hire me. I want to thank NNS and HII for their hospitality and I hope I get the chance to work for them again some day in the future. Whether that be in a few months or a few years.