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CYSE 368

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Internship: The Innovation Lab

Reflection 3

For this reflection paper I worked a total of 51 hours and 30 minutes. Getting enough hours for this paper was a bit more difficult because of us all being on spring break. For this past week I went in every day, so I was able to meet my hour requirements. Going back and forth from the iLab in Hampton and still making it in time for my classes on the main campus was really exhausting, especially trying to focus and learn as well. Compared to my first two sets of 50 hours, I feel these hours are the most diverse out of all of them. For a couple of days, I was building carts or other things needing to be assembled and 3D printing. One day we had a class of middle schoolers come in and we were teaching them about the laser, and they got to make phone stands. Compared to the only other group we introduced the laser to, kindergarteners, the middle schoolers' tools were more advanced. We first let them make a draft of their phone stand out of cardboard. To get the measurements how they liked. Then we transferred them to a website called tinkercad where they would put their measurements in and then they would work on their design for their stand. The next event we had after that was hosting an educational conference. That was a two-day event and was huge, K-12 teachers from all over Virginia and multiple other states came. It took place in a hotel in downtown Norfolk. At that event I was supposed to be at the registration table just checking people in, but me and one of my fellow

interns wanted to trade jobs, so our boss let us do so. I was in the room when people were giving their presentation for IT support in case there was any need of that. I was glad I got to trade with my fellow intern because I was able to listen to the presentations and learned what's to come for those in grade school. The most interesting presentation I heard was about A.I. in the classroom. The presenter made a fun but true comparison on how A.I. is a tool, just like how a calculator is a tool. Just more advanced. They were showing different A.I. models that would be good to use in a classroom. And talked about how this model would be used like how a tutor is used, helping the student figure out the problem but not giving it out right away. I was also able to make some connections at the conference. A gentleman gave me his contact information and told me to reach out to him once I get settled in my career. He was a former principal at a school in Chicago and told me he was in the works of opening a new stem school up there and would love to get some feedback on the cybersecurity career path they would have at that school. The next event I went to was a STEAM night at a middle school where I took some of our new robots they could play with and be a little rougher with. They had the opportunity to code these robots called Sphero RVR, and they loved them. I was also there to promote a spring break camp that we will be hosting next week. The kids got really excited and were talking to their parents trying to let them go. The next time I went into the iLab, I was doing some redesigns on some of our handouts at events for the 3D printer and then also decorating the classroom where we have schools come to learn. The next 3 days I felt have been the most related to cybersecurity my whole time at this internship. I found some robots that were half build just sitting around. So, I finished building them, then spent time learning how to code it. My boss said those were going to be the robots we were going to be using at the camp and told me she would love for me to take it home and try to figure it out. I found a robotic car already built, it had all the wires connected to the motherboard

and all. But it didn't run. I saw it had a Pico Raspberry Pi micro controller on it. I was so excited to see that because I wanted a Raspberry Pi for personal Projects I have in mind. One project would be to use Raspberry Pi's to create a home server, so I could work more on my cybersecurity skills. I thought this would be the perfect time to learn how to work the Pico Raspberry Pi before I move to the more advanced models. I had to stop with them for the day because we had our last meeting with the group of seniors building their boats. They got to test their 3D printed boat and then got to make T-Shirts in our lab for that. The next day I went in I was able to get back to work with the Pico micro controller. I learned that it uses something called micro-Python as it's OS, instead of how a regular raspberry Pi would run on Linux. So, I worked on installing micro python on the micro controller and now working on the code so that I can get the robotic car to move and connect to an app Via Wi-Fi. I'm really enjoying this project. I found a cheap Raspberry Pi Pico kit on amazon so I could get started working on personal projects. I also found a breadboard with another micro controller in it and a kit of LED lights to work with at the iLab, and my boss said I could take those home to learn them. Our boss also wanted new software downloaded onto some of our laptops but was having issues with it, so me and our IT lady work together to fix it. She needed me to allow her to take remote access over the laptops, so she could give in her admin credentials to download the new software. It was funny seeing what I've learned in some of my ethical hacking classes being used for IT support. Where you download a file to your computer and run it and now, they have access to your laptop. The last event I have to talk about was a T-shirt making workshop for a large group of teachers. They designed their T-shirts on Canva then we would upload it to our machine and get it printed out for them. Next week we have our spring break camp, A couple of months back our boss sent out a email just to me and two other of my fellow interns about an opportunity to have a bigger

role for the spring break camp and it would come with extra pay, but there was only room for 1 of us. I was the first one to respond telling her I was interested. I'm really excited and looking forward to our engineering, coding, and robotics camp. I can't wait to let the kids learn more about these cool topics, and I remember back when I was younger being able to go to camps like these. Throughout these last set of hours, I learned about making connections, and just being reminded that I am never done learning and growing even though I've started teaching to groups younger than me. Learning the actual hardware side of computers and technology, I feel is really important for getting a fuller understanding of cybersecurity as a whole. The time here has reignited a passion for building and creating towards my personal projects also, reminded me that you can never stop growing and learning.