Final Reflection

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Table of contents

Introduction

Since the second semester of my academic journey at Old Dominion University (Fall of 2025), I have been trying to get an internship that satisfies my academic requirements. That was about nine months of applying endlessly, getting back silence or automated rejection letters, and losing hope and motivation. I was doing what everyone was saying to do: network, keep applying, tailoring my resume for each position, writing cover letter after cover letter, posting on LinkedIn to build an online presence, and asking around for positions. I had about three separate meetings with the internship office at ODU and still came back empty-handed. I even attended a lab for the internship office and gained no new knowledge. It felt insulting, as many of my professors and the staff at the internship office reassured me that one does not need experience for an internship when that simply is not true. Hundreds of the internships I applied for *required* experience, which left me in the catch-22 of "how can I get experience if you will not let me work to get said experience?"

I also started to question if the definition of internship changed in the market to mean an entry-level position, as the job postings started to look like entry-level position postings. I remember going to events and speaking to employers who reassured me they were seeking inexperienced students to hire as interns, yet picked applicants who had experience over me. It was disheartening; it felt like I was stuck in some humiliation ritual. I heavily considered dropping the program entirely as I started to exhaust all my resources. I then had a serious conversation with Professor Duvall, letting her know what I had tried, how many times I had asked for help, and how nothing was working. She told me she had someone looking for interns and would put me in contact with him. Soon enough, I was interning for the Earth Viability Center.

The Earth Viability Center is a subsect of the social collaboration platform "Place4Us." Dr. Hans-Peter Plag created Place4Us for a noble reason: to provide a place where people can communicate and organize away from the capitalistic nature of social media now. Social media is concerned about making money through advertisements; this involves the use of predatory algorithms, data collection for AI training, and the promotion of what would be the most viral, not the truest. To be clear, Place4Us is not a social media platform; it is not meant to replace social interactions. What Place4Us does is create platforms for community; each of these platforms is called a Virtual Community Center or a VCC. Many of the VCCs are activist-based, such as climate change, anti-pollution, etc.

These VCCs have their own libraries where contributors can publish information that is readily available and free of charge, and they provide a place where members of the community can communicate and comment on the subject matter. This reminds me of what the internet used to be before money was involved; the internet just used to be a place where you could connect with anyone around the world and share information or opinions anonymously. Dr. Plag wants to bring that back, which is why he created Place4Us in hopes of creating international connections to help tackle climate change, loss of biodiversity, and pollution. As we all live on one planet, we only have Earth, and we must work together to save it.

When I interned for the Earth Viability Center, I agreed on three objectives: assessing the direct messaging service (called Confab) with respect to cybersecurity and proposing enhancements to reduce cybersecurity threats, assessing the current concept of the posting service with respect to cybersecurity, especially addressing detecting and handling inappropriate

posts and behavior, and researching methods for identifying images and videos created by AI. I chose these three objectives because they relate most to my career path; I want to be a security consultant for healthcare. Understanding direct messaging security can help me understand how providers can communicate securely with their patients or other providers. Understanding how to manage inappropriate behavior or posts can help me create proper policies on acceptable behavior and handle unacceptable behavior. Understanding AI detection can help me handle medical AI scams and the security risks that come with AI.

Orientation started with a Zoom meeting where everyone introduced themselves, and Dr. Plag and Barry Clemson described the purpose of Place4Us. They also went over their expectations and how to access the website's code so we can work with it. We spoke with previous interns to see what they have done, what they were working on, and what was unfinished due to time constraints. I will not say we had formal training; it was more along the lines of general guidance from my supervisor. I will say I got a lot of my skills from previous interns, who were patient with me and helped me learn new skills. During the orientation, I realized I had the wrong impression of the organization; I thought it was an activist space where activists could get together, exchange ideas, and organize. Place4Us was more of a public library than an activist meetup; it provided space for information and opinions to be shared for free, outside the prying eyes of advertisements and data farmers. I was under the impression that it was a social media space but for activists.

The Projects

I self-assigned my work duties and projects during this internship. Many of my assignments required researching and drafting. With self-assignment, I had a hard time keeping myself accountable, as I could change the deadlines or the initial standards I set whenever I wanted.

At the start, I tried to do everyone's job; I was trying to access website code, and because I did not have a functioning virtual machine, I struggled to do so. Assessing code was not part of my agreement, but I felt compelled to because I had an insatiable need to be the most valuable intern to create a sense of security. It took me a couple of weeks of trying and failing to access the website's code before Dr.Plag had to remind me that accessing the code was not necessary for my tasks. I had a hard time reflecting on my actions and the reasoning behind them before I could continue on.

AI Detection

My first official project was trying to figure out a way to make AI detection easier. The reason why we wanted a way to detect AI was that it would make the spread of misinformation or disinformation easier, but it also harmed the planet. I had to establish what goal I wanted to achieve with this task. The main goal I came up with was making the information accessible to the website's users, considering that many users do not have AI literacy and cannot distinguish between AI and reality.

The main issue with creating an AI detection system was trying to create one without creating an algorithm or using AI to automate the detection. We did not want to use AI to detect AI, as AI can make mistakes and has made mistakes, and it went against the organization's

values. I proposed multiple solutions, including providing a guide on how to spot AI, creating a report system for users to report AI, and a warning system for users. I had to consider multiple scenarios: users not being able to identify AI, users mistaking real things for AI, and users abusing the report feature to try to silence others. The issue with the guide is that AI continues to evolve, and the guide can become outdated quickly; then who would be responsible for updating it and updating it quickly enough? The reporting system is fine, but how would it be integrated with the already established reporting system? The warning system could work, but the logistics lay in how it would work.

Then, in one meeting, while bouncing ideas off each other, it clicked. If there was a separate reporting tab that created a forum where users could discuss whether a post was AI, it would meet the goals I set out *and* meet the goals of the organization. Within this forum, users can share how they can identify the post as AI, which helps spread AI literacy, but it also gives users the chance to defend the post if it is wrongly identified as AI. This also encourages conversation, sharing experiences, and sharing knowledge while giving an effective warning about an article potentially containing AI.

Algedonic Notes

My second project was to assess the reporting system, called Algedonic Notes, and advise on it. It had the following categories: none, low, medium, high, urgent, and extremely urgent. Dr.Plag goal of this system was for users to provide feedback to articles and give users the opportunity to report anything that went against the terms of the platform. The main issue of combining those features was how vague the terms were and that this system had essentially two jobs. After much discussion, I started on defining the categories, what was considered urgent, and what was considered low severity. My main goal, other than defining severity, was figuring out when a moderator should be notified, potential procedures for handling posts of higher severity, and creating an appeal process for users to avoid abusing this feature.

My first draft focused more on defining severity. Low could be defined simply as a difference in opinion or a question about the article. Medium could be health scams or “alternative treatments” or the overuse of crass language. High could include misinformation, promotion of conspiracy theories, denial of science, and religious extremism. These would not immediately alert a moderator, and a benefit of the doubt is given to the original poster, giving them a chance to change the content or take it down. Urgent could be defined as promotion of violence/criminal behavior, hate speech/threats, glorification/encouragement of self-injury, and copyrighted material. Extremely urgent could be defined as showing of child sexual abuse material (CSAM), gore, illegal nudity, posting someone's private information, and government leaks. In these scenarios, a moderator would be alerted immediately, as these offenses could interfere with the integrity and the viability of the website. The initial appeal process was that the original poster could edit the content if the offense was minor, and if there were no edits, the post could be put under review by a moderator. The original poster could also submit an appeal to the report, which would involve a moderator making the final judgment. To prevent misuse, there was a suggestion of rate limiting, where a user could only report five posts within a 24-hour period, and throttling, where after a third report, a user must wait a designated time before submitting their next report.

There was a discussion on there being too many categories, which could confuse users, but I argued in favor of clarity over simplicity. In the second draft, I reworked the organization of

the categories to fit within the pre-established categories Dr.Plag put into the system. Under extremely urgent CSAM, gore, sexually explicit material, DOXXING, and government leaks were thoroughly defined with the action of alerting a moderator immediately. Under urgent promotion of violence and criminal behavior, hate speech and threats, glorification and encouragement of self-harm, copyrighted material, and disinformation were thoroughly defined with the action of alerting a moderator if the user does not acknowledge the algedonic note. Under high misinformation, promotion of conspiracy theories, denying science, nonsexual nudity, and religious extremism were thoroughly defined, with the action of it being a pop-up for the original poster to acknowledge. This was with the nuance that if three or more reports were made on a single post, a moderator would be involved. Under medium health scams and alternative treatments, and overuse of crass language, the action for this is a pop-up for the user to acknowledge. Under low, a difference of opinion, question, or something else was left blank, with the action of a pop-up for the user to acknowledge. This gave a better understanding of the system I was trying to build by making the categories objective rather than subjective and giving clear information on what each offense meant. We added a new aspect to it, acknowledging the algedonic note; this was to be achieved as a pop-up that would block any other activity on the website until the user clicks on it. This gives the system objective information on whether the user was made aware of the note. The appealing process stayed the same while another aspect was added: self-flagging to prevent minors from accessing inappropriate material.

Through a healthcare lens, I realized that medical nudity or medical images of injuries and illnesses are necessary for spreading information. Not all nudity is sexual or morally bad. There is also the aspect of sexual education that I believed to be important as well. Giving users the option to self-flag their work so that other users are not immediately blindsided seemed like a good solution to keep the integrity of sharing information. This self-flag would appear as a pop-up before someone accessed the article; it would give the message “this article/post may have adult content. Do you want to proceed?” Giving the user the option to back out or proceed into the article. This keeps information accessible while adding a layer of protection for minors or adults who are sensitive to that content. This is not a perfect solution, as minors could just hit yes and continue, but it is the best solution while keeping anonymity and privacy.

Confab security

My last project was the one I struggled with the most. I did not fully understand the details of the website’s code because I could not access it, leaving me a lot of blanks I had to fill in on my own. With this task, I had to learn how to use a completely new tool, interpret its results, and self-manage disappointment. The main goal for this task was to keep the logs of Confab chats secure.

The new tool I learned to use under the guidance of other interns was ZAP. ZAP is a pen testing tool that can do vulnerability assessments, runtime testing, and code review. It is an open-source tool that is a manipulator-in-the-middle proxy that stands between the browser and the web application. ZAP is complex, and I still do not fully understand it, but I was able to use one of its features called “spider.” Spider essentially clicks through all the web pages a site has to offer. This was important to see how easily accessible the chat logs were; we turned up empty-handed, but that is a good thing.

After performing that analysis, I set off on researching ways to secure chat logs. I initially started researching under the assumption that chat logs were stored within the website, leading

me down paths on how to secure web pages behind a password. This, however, was incorrect, as I then learned the logs were stored differently. This led me down the path of how to encrypt data, which led me down a lot of rabbit holes that became overwhelming. Multiple times throughout the research process, I scrapped and restarted the project entirely. I simply could not be satisfied with my work, which led to many delays, as one could imagine. I also let this project define my worth for a solid month, and it tanked my confidence. This started to affect my other work, so I had to put a pin in it and revisit it, which so happened to be the algedonic notes.

The algedonic notes project helped me regain my confidence, leading me to tackle the research again. I unfortunately was still unhappy with my work; I believe it had to do with me not accessing the website's code, which prevented me from taking a deeper look at confab security. I was also worried about disappointing my fellow interns and my supervisor, which caused me to restart the project a couple more times. At some point, I grew tired of restarting my research, so I hunkered down and decided to finish the first draft no matter what, just to get it off my chest. I did not like it, and my doubts were getting the better of me, but I had to remind myself that if I did not bite the bullet, I was only prolonging my suffering. I then uploaded the first draft, and I got a much more positive reaction to it than I expected. I expected all of the research to be considered useless, but it was not; some of it was, and that was unfortunate, but some of it was important. I cannot bring myself to touch it again, as it took a large mental toll on me.

Challenges

Time management

For some background, when I took on this internship, I had also accepted a second one (this second one did not count towards graduation). While I was doing two internships, I was also a full-time summer semester student, and I was working part-time. The only schedules that were set in stone were my working hours for my job, the meetings for the second internship, and the meetings for this internship. I was reasonably overwhelmed and was fast-tracking myself to burnout; the moment I focused on one thing, the others would be neglected and vice versa. I was also growing sleep debt and barely had an hour to myself. The biggest hurdle was managing my time.

I had to give up the gym for a while; I simply could not fit it into my schedule anymore and it was one of my biggest stress reliefs. Outside of work and meetings, I had to create a very structured yet flexible schedule. I started out by mapping out all my assignments, quizzes, exams, projects, lesson planning, and, most importantly, their due dates. I broke up every task into two-hour increments, dedicating my undivided attention to a single task for two hours. Once those two hours were up, I would switch to a different task like a homework assignment or a task for the second internship. After four hours of solid work, I would give myself a small break to breathe and be human.

This was very hard to achieve, especially with academic demands and needing to work to support myself. I simply could not ask for fewer days of work, or I would get less money. I worked at a fish store, so bringing my laptop into a wet environment was not ideal either. I broke down many times during the hardest of those days, but I had to remind myself that the only way

out was through, and I had to keep pushing. My second internship eventually finished, and I switched jobs to work in an IT position for ODU, giving me a lot more time to work on this internship and my studies.

Confidence

One of the biggest challenges I faced while working on this internship was my confidence and finding my value in the work. I started out trying to do everyone's job to make myself the most valuable intern, the logic being that if I became very important by doing everything, I would be too valuable to terminate. This confidence also fed on my lack of knowledge. Being surrounded by interns who had more technical experience and knowledge made me seem useless in comparison.

I realized early on that a lot of what I learned in academia was not applicable to this real-life situation. In academia, I did not learn a lot of the technical skills needed to match the demands of the job market; most of what I learned was policy and theory. While policy and theory are great for academic space, in the job market, they are not as useful because they cannot be applied to the tasks that need to be done. It is great to know how a network works, but it would be useful to also know how to build a network from the ground up or how to fix a dysfunctional network. As I worked with the other interns and learned how to use ZAP, I gained more confidence as my mentality shifted from "wow, I do not know anything" to "wow, let me try and learn about this."

I do have a criticism for ODU, and it's the curriculum, though. Several of the labs I worked on used outdated tools and used those outdated tools on outdated OS like Windows 7. I can understand that many organizations use legacy systems, so there is the argument of learning how to use older systems, but it should not be *only* older systems we as students learn about. There are organizations that do not use legacy systems, like the Earth Viability Center, where nothing I learned can be applied. There should be a more balanced curriculum covering older technologies as well as modern ones. A good example is learning how to use ZAP; I never knew ZAP existed, and it was a very large learning curve. ODU lacks so much information on modern tools; while Wireshark and JohnTheRipper are great, they become limiting as technology advances. Realistically, I know ODU cannot teach every single new tool that is out there, but at the least, they could make it a point to make students aware of them and encourage self-exploration. I say this because of the concept of "we don't know what we don't know," meaning if we are never made aware of something existing, then we will never know that it exists. Especially in the job market, which is always changing as technology evolves, this is essential for the school to implement.

Experience for my career

Policy Creation

My experience in helping create policy has reinforced the basics of cybersecurity I learned while giving me the career path experience I needed. On the academic side, I learned about the CIA triad and ways to maintain it; I also learned the basics of creating a policy and what criteria a policy would have to meet. It was emphasized that policy should be secure yet realistic. Policy cannot be too complex, or the majority of workers using it will not understand it

or simply will not follow it. It was reinforced to me that not everyone is tech-savvy, but everyone still had to practice good cyber hygiene.

I had to think from multiple perspectives, and I have to remind myself to keep the wording at a basic level. Especially with the reporting guidelines, I had to spend a lot of time defining each offense correctly and creating literary consistency within the guidelines. I had to make sure each definition was simple yet comprehensive and made it as clear as possible what I meant. I also had to keep in mind the use of legal jargon when it came to copyright, and I was told to address copyright from a more international perspective, as copyright laws differ between countries. I also had to ensure each 'punishment' or action the moderators had to take was reasonable and met the moderators' needs. Defining what offenses needed moderator attention and when moderators should be involved in lesser offenses was a delicate balance I had to create.

Research

For my last project, I had to learn a different way to research. In academia, I learned how to research to find evidence to support my arguments. This made me think in a very narrow sense as I was looking for facts to support my arguments or to disprove them, which in this situation did not make sense because what was the argument?

I had to reconstruct how I saw information; I had to reevaluate what I was looking for and redefine the purpose of my research. That is why I had to restart it multiple times; I noticed that as I researched, I would narrow down a path that was trying to create evidence for an unknown thesis. I found myself trying to argue why server encryption was better than password-protecting web pages when that was not the point of my project at all. The project was a general collection of suggestions and saw which suggestion fit best with the coding of the website.

I had to learn how to keep track of the articles I read; I also had to note why I did not use those articles. I had to relearn how to skim for pertinent information and take note of *everything* I thought could be of mildest interest to Dr.Plag, and that took a lot of consideration on his part. I cited maybe ten different articles in my first official draft, and I had to sit back and think, "If I were the owner of this website, I would not want to read ten different articles to see what I find important." I had to rewrite my summaries multiple times, trying to include what would be the most important to know and what was usable. It was reasonably difficult.

The other skill I had to learn while researching was finding relevant articles. Several online articles would list ways of making a site secure but would not go into depth, and when I tried to find more in-depth articles, they were behind a paywall or out of date. With so many dead ends, I also had to keep track of them so I wouldn't stumble across them again and be confused. Remember, I was working a second internship, doing school full time, and working part time; there was no way I was remembering what articles I had already read. I had to create a system of links and article titles I labeled "duds."

Motivation

As someone with ADHD, it was very hard to stay motivated. Staying motivated throughout the application process was its own beast. I wanted to give up multiple times, give up

the whole program, and maybe choose a different major. However, I had a lot of factors keeping me in.

External factors

My external factors were that I had already invested a lot of time and money into this program. I am not lucky enough to get scholarships or grants or have someone else finance my education. I grew up a child of immigrants who came from nothing; I could not simply give up, otherwise what my parents fought for would amount to nothing. I am their legacy; they chose to start their lives over for me. I also could not reasonably go into thousands of dollars in debt to come back empty-handed.

Internal factors

I am a very stubborn person, to my detriment. I had to give myself multiple pep talks about how I already made it this far; I cannot stop now. How my imaginary enemies are praying for my downfall, and I cannot give them the satisfaction of my failures.

Another important reminder I had for myself: I even wrote it on my mirror because it was that important- that my suffering now is so my future self has an easier life. Internal love is not just loving my flaws and accepting myself; it is me doing things to make my own life easier. I change the sheets on my bed before I go to work because I know I will be too tired from work to do it; it is like doing myself a favor. Shifting my perspective made a light at the end of the tunnel, thinking about how relaxed and happy my future self will be because of the hard work I am doing right now.

Advice for future interns

Upon this reflection, I also had to think of how to articulate what I learned for someone else to read and gain something from it. This is difficult because I still do not believe I did the best job I could have for this internship; I believe I could have done more when I physically could not. So I will speak to myself, the me I was before taking on this internship.

Become comfortable with your inadequacies, quickly

From every new job I have encountered, I had a training period for all of them; this internship did not come with a dedicated training period like those jobs. Sometimes, life is like that: you are thrown into the deep end and expected to swim. The first step is to find out where you are inadequate, where your skillset lacks, and become aware of them. After becoming aware of them, you have to accept them. I spent too much time mulling over what I did not know, and I was wasting time by not learning. Once you accept that you have a lacking skill set, you have to move on and start learning. The timing of this is critical, as if you do not start learning within the next two weeks, per se, the job can end up terminating your employment. It is important not to see your inadequacies as a roadblock but as opportunities to learn.

It is ok to be wrong

What dragged out my last project was my fear of being wrong. I was worried about finding the most relevant and perfect information that I effectively sat on my hands and did nothing. I kept worrying about what I should include and what I should do that I ended up not

doing anything at all. I had to remind myself multiple times that my work is not being graded; I am just being asked to *do it.* When I do the work, I can open myself up for feedback, and that is ok. Being hyper-focused on what Dr.Plag might not like overshadowed the whole purpose of the project. In the end, I was not punished for having some things wrong. I let my fear of not being perfect give me unnecessary anxiety.

Look at the job market

The last piece of advice I would give myself is to look at the job market. Look at what skills are *actually* needed and are being used. Relying on the university to supply that information is a very naïve way of thinking. I am sure Old Dominion University does not want its students to fail in their careers, but it is not realistic to believe or rely on the university to supply you with all the tools you need to have a career. Even though from a young age we were told: "go to college, and you will get your career." We were fed a lie, and we have to look at the job market and see what skills are in demand and teach ourselves those skills.

Conclusion

My main takeaway from this internship under Dr. Prag with the Earth Viability Center was that it gave me the reality check I needed. I am grateful that I know now, and not after I graduate, that I am missing a lot of essential skill sets the market is looking for. It is great that I had the experience of learning where I am lacking and making a quick turnaround instead of wallowing in a paying job and being let go. I am grateful I got the ugly parts of having a job within my field out of the way so I know now how to better manage those feelings, and I have a game plan on how to overcome them. Overall, I loved this internship; I loved being able to create policy and create change in an organization I believe in wholeheartedly.