

Reflection Essay

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Abstract

In this reflection essay, I will discuss how my academic and professional work experiences helped me grow in three main key skill areas: Technical Skills and Applied Cybersecurity, Technical Writing and Documentation, and Privacy and Compliance Engineering. Based on nine artifacts, three in each of the areas of skills, I consider how coursework, professional work, and working projects enhanced my comprehension of the intersection of technology, human behavior, and regulation. Thinking about my learning through the narrative identity theory lenses also enabled me to track how every experience in my life led me to my developing career path (McAdams, 2015). I also incorporate systems thinking to describe how my activities in the domains of cybersecurity and privacy have made me consider whole ecosystems instead of single parts (Nguyen, 2019). Collectively, these artifacts can be used to demonstrate that interdisciplinary study has reinforced my confidence and enhanced my analytical and communication skills, as well as equipped me to work in privacy engineering in the future. My reflection of such an experience will provide evidence of how my ability has been honed and how interdisciplinary learning has become a necessity in my career.

Introduction

The intersection of several disciplines has influenced my career and academic experience. In my coursework at Old Dominion University and in the course of acquiring practical experience in Meta, TikTok, and eventually Geotab, I realized that the issues of cybersecurity and privacy cannot be viewed through the prism of one perspective. This business necessitates one to operate technically, ethically, legally, and behaviorally simultaneously to succeed. It was due to this that

my undergraduate experience was much more interdisciplinary than I expected. Every course, assignment, and every job-related responsibility urged me to grow in my understanding of the problems and ways to share this information and analyse my personal progress.

Here, I am going to discuss three of the core skills that I discovered during my academic and professional growth: Technical Skills and Applied Cybersecurity, Technical Writing and Documentation, and Privacy and Compliance Engineering. Each skill is considered in three artifacts, nine in total, selected in coursework, professional, and personal technical projects. These artifacts are the various stages throughout my developmental path when I was challenged, taught wrong, and eventually improved my knowledge in the discipline.

I use the narrative identity theory to frame my reflection and indicate that people form meaning through the synthesis of their experiences into an unfolding story of life (McAdams, 2015). The lens enabled me to see my learning in the light of the fact that every artifact represents a changing point in my development. Systems thinking is also relevant to this reflection, as most of my actions related to cybersecurity and privacy demanded an insight into how technological, regulatory, and human factors interact (Nguyen, 2019). My graduate degree equipped me to work in the multifaceted worlds of privacy and security engineering by using my artifacts to illustrate how each of these interdisciplinary views can help me succeed in this industry.

Technical Skillset Reflection

My initial skill set, Technical Skills and Applied Cybersecurity, is the basis of my academic and professional identity. These artifacts are one of the points at which I first started implementing technical concepts beyond theory and came to learn how cybersecurity works within the actual systems.

One of the first yet essential milestones in my development was the CompTIA Security+ certification. Though the certification is no longer active, the preparation for the certification required intense study and a serious interest in learning the fundamentals of security. The knowledge on incident response, risk management, network defense, and security architecture gave me a conceptual model of how I think about technical issues in security. This is also a milestone that reflects a significant concept of the narrative identity theory: people evolve as they attach reflective achievements to their self-developing identity (McAdams, 2015). Gaining the certification was one of the earliest experiences when I was able to consider myself not only as a student who was studying security but as an individual who could make a difference in the sphere.

The AI chatbot project is one of the most instructive learning opportunities in my technical growth. The system, including its retrieval-augmented generation pipeline, as well as its embedding and vector-database architecture, took me two months to design and construct, and necessitates a synthesis of software engineering abilities with best security-related data-handling techniques. I needed to look at the flow of data within the system, how to guard documents utilized in the knowledge base, and how to have less exposure in the user interface. The current project was also my first experience when I profoundly realized that there can be no technical development and security split. It also showed how the field of engineering is interdisciplinary, as a single project requires the understanding of algorithms, user behaviour, interface design, and security principles. The successful completion of the project made me confident in my skills to work autonomously on complicated systems and helped me to eventually choose the field of privacy engineering.

The Linux Security Lab: Nmap Brute-Force Enumeration course is one of the steps that I took in moving the concept of cybersecurity that I learned into practice. To execute Nmap scans,

study the settings of different services, and learn about authentication, one needs to be capable of thinking like an attacker, which is to predict areas that can be exploited in a system, and have knowledge of how vulnerabilities are created. This experience made me more proficient in systems thinking since I needed to think about the interaction between network services, credentials, and host responses, instead of regarding each element individually (Nguyen, 2019). The lab made me realise that the small misconfigurations could have spiralled into bigger holes, and I had the value of constant testing and validation of systems that are secure. Combined, these three artifacts explain that my technical background increased between conceptual education and applied problem-solving.

Technical Writing Reflection

The second competence area is Technical Writing and Documentation, which I did not take seriously initially during my studies. I had imagined cybersecurity to be about tools, programming, and the defense of systems, but I had to find out that communication is also essential. Writing turned out to be a vehicle that helped me to clarify my thoughts, express complicated ideas, and relate technical systems to greater ethical and social consequences.

The fact that Surveillance Capitalism analyzes how society is redefined through the use of data extraction and algorithmic profiling challenged me to think about it. The composition of this work made me have to integrate ideas about technology, ethics, economics, and psychology. I was forced to explain how mass data habits impact autonomy, privacy, and human behavior. The assignment also helped me develop the capability of looking at systems beyond the technical aspects to their human effect. It has challenged me to act more critically on the part of engineers

developing systems that shape the digital lives of people. The artifact is valuable considering that it is the time when I first realized that privacy was not only a technical issue but a social issue.

The Cybersecurity Attack and Defense Strategy Report reinforced my analytical writing skills. Such disaggregation of attack vectors, mapping vulnerabilities, and clarifying the defenses on a layered basis demanded that I be in a position to articulate the technical processes in terms that people could understand. I needed to consider the format and accuracy heavily, and I needed to ensure that the explanations were readable to anyone going through the article, regardless of their technical level. This assignment reflected the nature of writing needed in the privacy engineering field, where it is necessary to communicate the risks and solutions to legal offices, product managers, and software developers. Writing the report allowed me to develop confidence in the fact that I am capable of presenting complicated information professionally and systematically.

Business Case and Technical Feasibility Analysis challenged my writing further to the extent that I needed to combine technical and business reasoning. I needed to weigh the cost, maintenance, impact on an organization, and long-term sustainability, besides the functional aspect of the system. This interdisciplinary approach is critical in actual engineering, where a decision has to conform to the organizational priorities. The artifact made me understand how to choose between items and how to formulate technical decisions in such a way that they help achieve strategic objectives. A combination of these three writing artifacts sharpened my mind and ability to convey a message to different audiences; these attributes remain instrumental in helping me to meet my privacy and compliance responsibilities.

Privacy & Compliance Engineering Reflection

Privacy and Compliance Engineering is the third of the skill areas, and that is the area where all my interdisciplinary learning comes together. These are my professional artifacts that were modified to fit into academic requirements in order to protect against the provision of proprietary information. The artifacts made me relate the technical, legal, ethical, and human-centered points of view.

The Data-Flow Mapping Summary demonstrates my skills in tracking the data flow within the systems of an organization. I was required to determine what information is gathered, where it is kept, with whom it is shared, and its purpose. This artifact needed system-architectural knowledge, security awareness, and knowledge of privacy regulations. One of the lessons provided to me by data-flow mapping was that privacy engineering is not dependent on individual features, but the whole ecosystem. It enhanced my skill to identify risks at an early stage and introduce design-level modifications that minimize data wastage.

The second artifact is Regulatory Interpretation to Engineering Requirements, which demonstrates my methods of converting legal requirements into technical controls to be implemented. Laws like the GDPR are usually phrased in general terms, which need to be translated into tangible system actions. The values of such requirements as access-control requirements or data-retention limits need both legal understanding and engineering discretion to interpret the requirements. This artefact indicates how interdisciplinary the work on privacy is: I was required to comprehend the purpose of the regulation and how I could translate the purpose into the authentic architecture of a system. It was also an important experience in enhancing my belief in closing the policy-technology gap.

The third artifact, the Privacy Risk Evaluation Summary, brings up the ways I would evaluate systems with poorly aligned or unneeded data behaviors and suggest mitigation methods.

Threat modeling, compliance frameworks, and ethical considerations were some of the sources I relied on in this process. This experience correlates with the argument presented by Smith and Firth (2018) that professional identity develops as people can see that there are regularities in their decision-making. By performing the assessments multiple times, I learned how to rely on my judgment, predict possible problems, and present the suggestions in a form that would allow protecting privacy and perform the role of the product. Combined, these pieces of evidence demonstrate how my learning equipped me to handle complex work in the area of technology, regulation, and user trust overlap.

Interdisciplinary Degree Outcomes Reflection

My interdisciplinary studies were important in making me the person I am today as a privacy engineer. This course and its artifacts enhanced my growth in a new dimension, and the most valuable result is that the experiences have taught me to think beyond boundaries. Cybersecurity classes provided me with a technical level of understanding of the systems and vulnerabilities. Courses involving a lot of writing-intensive assignments helped me to improve my thinking and communication skills, making it possible to express complicated ideas in the most understandable manner. The work experiences that I had also brought me awareness of ethics and systems thinking; thus, I was able to see how technology impacts real people.

Owing to this interdisciplinary base, I was more efficient as regards complex problem solution. Technical problems are seldom considered in isolation, particularly in privacy engineering, in which legal expectations, user behavior, and system constraints have to be taken into account at the same time. The artifacts in my portfolio demonstrate my learning of the ability to analyze a problem from a variety of perspectives: technical feasibility, ethical concerns, human

effect, and regulatory considerations. The competency will prove necessary as I proceed to operate in areas where privacy, security, and innovation policies have to co-exist.

Finally, the learning experience showed how interdisciplinary learning can teach a person that solutions to the problem lie in the greater ecosystem. When designing a system, creating a report on the risks, or determining compliance, I count on my capacity to combine knowledge across disciplines. Such a method will equip me not just with the prospects of future work but also with the changes that have arisen concerning the complex and interdependent data systems.

Conclusion

Looking back over my coursework, projects, and professional experiences, I can trace how the individual artifacts contributed to my growth as a privacy-oriented engineer. My artifacts helped in enhancing my knowledge of systems and security. My writing tasks prepared me to be a critical and well-articulated thinker. It was the difference between the legal, technical, and ethical perceptions that my privacy engineering artifacts brought that gave me my new professional identity. I have developed the ability through interdisciplinary methods to approach problems with an open mind, curiosity, or the need to gain knowledge on how technology affects human beings and society. Even though my career direction is still in the development process, I am now more focused and have gained more skills in analysis, as well as more comprehension of how interdisciplinary studies can work in the magnified context, which is privacy and security.

References

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