

Anna Mae Taborn

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Professor Umphlet

Cyber Security & Social Science (CYSE 201S)

Cybersecurity Career Professional Paper (1st Person View)

Select a type of cybersecurity career and write a two-page paper describing how professionals in that career require and depend on social science research and social science principles in those careers. Pay specific attention to the key concepts learned in class and demonstrate how those concepts are applied in the career you selected. The focus should be on demonstrating how the material from class relates to cybersecurity professionals' daily routines. Specific attention should be given to how the career relates to marginalized groups and society in general. Students should use at least three reliable sources to write the paper.

Cyber Operations

As a Cyber Operator I am in charge of gathering foreign intelligence to process, analyze and exploit cyber criminals, as well as mitigate real-time attacks for the Department of Homeland Security. The information gathered is also used to track down criminals of interest in various countries/geolocations, as well as create tactical plans to execute against criminals and bring them to justice. On a day-to-day basis I implement my knowledge of computer networking protocols, risk management, and knowledge of cyber laws/regulations. Some of the skills I use to perform my job include finding vulnerabilities, writing technical reports, as well as executing scripts on programming software such as Python. Moreover, I apply the same skills to be able complete daily task of monitoring systems, collect network traffic, use decryption tools, and exploit digital networks. To summarize the scope of my job, it is my responsibility and duty to protect cyberspace from malicious unauthorized threats, as well as find ways to prevent and provide knowledge on the importance of safe computer usage.

Cyber Operations & Social Science

Working as a cyber operator is more than just computers, within this career my social skills drive my successful results. Those social skills include using critical thinking skills to conceptualize, apply, and analyze before making decisions, working as a team to communicate, and problem-solve, as well as having the necessary writing skills for after-action reports.

Another elemental part of becoming a cyber operator is also being able to understand criminology, psychology, as well as cyber policy. Criminology in relation to my specific job title requires me to be able to study criminal activity within cyberspace and make the connection on how it affects the physical space, while psychology requires me to understand a criminal's thought and behavior patterns, this in turn helps with categorizing the criminals with specific cognitive theories to determine what motivates them to commit cybercrimes. Additionally, it is vital to understand my company's cyber-policy to make sure that the actions I perform are both in compliance and ethical. More importantly, understanding U.S and foreign laws allows me to build cases on criminals for the Federal Bureau of Investigation (FBI).

Code experimenting on UNIX systems is also another social aspect and research method I use as a cyber-operator. This type of experiment allows me to deploy exploits against hackers, as well as set-up honey pots to determine how a hacker will respond to my attacks. Prior to executing these experiments, I must also evaluate the ethical neutrality of the attack before its deployment. After attacks have been deployed, after-action reports should be explained in a way that is not too complex for future researchers to understand (Parsimony). Moreover, if I am working on projects to study a specific criminal's background, I will use archived records such as web-forums, dark-net sources, and earlier data breach reports so I can extract information. In

most cases this information has helped me discover a criminal's social motivations whether it be for wealth, organized cyber-crime groups, or mass control.

Overall, the time invested into this career field pays off very nicely. Not only have I gained a numerous amount of skills that can be applied to other career branches in cyber security, but I also get the satisfaction knowing that what I do helps protect U.S Cyberspace as well as those that are vulnerable to identity theft, and fraud.

Work Cited

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