

Social science and cyber security

Introduction

In the landscape of cybersecurity, different professions play a critical role in safeguarding digital assets and protecting them against malicious activities. One of the specific cyber security careers that focus on the integration of social science is digital forensics investigators. Digital forensic investigators play critical roles in investigating cyber crimes and contributing to the overall cyber security, landscape, and technical, fundamental expertise of the field. They integrate social science, research, and principles. The principles of science could adhere to social science and the one that primarily focuses on the career path of a digital forensic investigator is empiricism and neutrality. Empiricism studies things that we can feel so the five senses and scientists gain knowledge from the experience and bring it forward. Neutrality is when scientists have ethical standards whenever they conduct research or experiments. These two things are very important to follow when you are a digital forensic investigator. They use a lot of different observations and come to conclusion based on evidence.

Forensic process

The steps that digital forensic investigators take when the forensic process is involved are collecting, analyzing, and preserving digital evidence. It is important to understand human behavior during this process because it helps investigators anticipate how humans or certain individuals may react or use technology. Social sciences give insight into human behavior and decision-making and online behavior enhances the effectiveness of the forensic process. Digital forensic investigators have to understand the habits and behaviors of certain individuals in the

different cases that they are given, It's important to understand them because the dynamics are crucial for identifying what tactics the investigators need to use to diffuse a situation.

All forensic investigators also involve individuals from other backgrounds. People from these backgrounds may have different scientific principles, or that they perceive things when it comes to the aspects of the scientific world. Social science principles inform investigators about the different cultural differences that they come across whether it's people in their field or the people that they are investigating. This is to make sure that there are no biases that can arise during investigations, this in retrospect keeps the social science principle of neutrality intact.

Alongside having to have an understanding of cultural differences in being aware of different cultural aspects, digital forensic professionals have ethical dilemmas. These ethical dilemmas related to privacy, consent, etc. Another aspect of this is how the findings of the case might affect or impact certain communities/individuals or society as a whole. Science principles, particularly the ones related to ethics and morality, guide this part of digital forensics professional's careers, and it helps them make informed decisions.

Marginalized groups and society

Marginalized groups are the most vulnerable to different forms of cyber crimes. This includes online harassment, fraud, and identity theft, just to name a few. Digital forensics professionals are equipped with the skills that they gain from social science so that they can investigate cases based on how marginalized groups were impacted. People who are in the digital forensics field, find that they may have to advocate or push for more protection, for these modernized individuals in the digital realm. Victim precipitation is an idea or action where individuals experience situations of different cyber crimes. This mainly occurs when people overlook certain

things that make them more susceptible to getting hacked or their privacy breached in the digital world, this could range anywhere from password sharing, having a weak password, or using unsecured Wi-Fi. Digital forensic investigators can look at these instances and push for a solution, which makes it less of a problem for people in these marginalized groups to be victims.

The social principle that is used when digital forensic investigators have to advocate for the vulnerable people in the digital world is objectivism. Objectivity is the assessment of vulnerabilities, and making sure that they are not influenced by personal bias and ensures professionalism. social justice involves promoting fairness, equity, and equal protection of all individuals both vulnerable and non-vulnerable. In a sense, this requires people in this field to have certain emotions involved like empathy, and have to sympathize and look at things from the perspective of a regular person that is using technology.

Social science application in digital forensics

As previously stated, digital forensic professionals, use a lot of different social science, processes, and principles. Technology and the digital world changes and evolves constantly and people in the fields that deal with technology have to adapt to it. Digital forensics professionals have to have a deep understanding of society and the technological world to unravel the complex cyber incident, which then helps contribute to the development of cyber security strategies. This helps enhance the understanding of both technical and social dimensions that have become more evident in becoming resilient to certain challenges.

Conclusion

In conclusion, digital forensic investigators, have to navigate a complex world where social science research and principles are integrated with their daily professional routines. They apply social science principles of empiricism, neutrality, and sometimes objectivity. The intersection of these principles and their jobs helps them understand how to approach situations and cases from an ethical point of view. This helps them also understand the legal framework that is relevant to their work and additionally have an understanding of how certain human behaviors play a role in the digital world. Certain cases or scenarios can help digital forensic investigators empathize with the victims they may work with. It makes it easier to put yourself in the shoes of the victims and keep an open mind as to whether certain things went wrong and how they can go wrong when you are a regular person trying to navigate the digital world. Alongside this, it can help them understand how to make certain things preventable so that there aren't a repeat of cases or cyber crimes. Overall forensic investigators use social science principles to analyze and help them in their field, so it makes a healthy digital environment for all.