

Career Paper:

The Role of Social Science in Cyber Forensics

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Introduction

Cyber forensics is a field within cybersecurity that collects, analyzes, and presents digital evidence for legal and investigative purposes. In a world where technology is constantly evolving, cyber forensics professionals must not only apply technical skills but also apply social science research and principles. The purpose of the paper is to show how social science concepts play a crucial role in the daily routines of cyberforensic experts, particularly in understanding human behavior, assessing the social impact of cybercrime, and addressing the needs of marginalized groups.

The Role of Social Science in Cyber Forensics

The ability to interpret digital evidence in the context of human behavior is a key component of cyber forensics. Cybercrime experts use social science research to understand the motivations behind identity theft, hacking, and cyberstalking. Psychology and sociology studies help professionals identify patterns in criminal behavior and predict future threats. As an example, cyber forensic specialists often utilize criminology theories, such as the Routine Activity Theory, which explains how cybercrimes occur when motivated offenders, suitable targets, and insufficient guardianship are present. Forensic professionals can anticipate and mitigate future threats by understanding these patterns. To evaluate the broader impact of cybercrime on society, social science research is also crucial. Cyberforensic For example, marginalized groups may lack the resources and knowledge to recover from identity theft, making them more vulnerable to long-term consequences. Forensic experts can tailor their approaches to investigations and evidence presentation to ensure equitable justice by applying insights from social science research into how different communities experience and respond to cybercrime. Social science principles are directly applied to digital investigations through profiling and communication analysis. Cyberforensic Furthermore, linguistic analysis, a method grounded in social science, helps forensic experts examine the language used in digital communications to identify potential perpetrators. By understanding cultural, social, and psychological factors that influence individuals' behavior online, these approaches ensure that investigations are socially and contextually informed.

Social Science and Cyber Forensics

Cyber forensic professionals need to understand how their work intersects with marginalized communities. Doxxing, harassment, and scams may disproportionately target marginalized groups due to socioeconomic status, race, or gender. Social science research helps forensic experts better understand these dynamics, allowing them to advocate for better protective measures and more effective policy-making. By considering how cybercrimes impact different populations differently, forensic professionals can contribute to more inclusive cybersecurity solutions. As an example, the concept of the "digital divide" - a social science theory that examines inequalities in access to technology - is relevant in cyber forensics. Forensic experts should be mindful of how gaps in digital literacy and access influence marginalized groups' ability to protect themselves and recover from cyber incidents. By incorporating social science into forensic practice, the profession can advocate for policies that promote digital equity and support vulnerable communities.

Conclusion

The field of cyber forensics emphasizes the importance of social science research and principles in cybersecurity. Cyber forensic professionals use social science to enhance their investigative work and contribute to a more equitable digital landscape by understanding human behavior, analyzing the social consequences of cybercrime, and advocating for marginalized groups. Cybersecurity is not only a technical problem, but also a social one, where human behavior and societal factors play a crucial role.

References

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