Cybersecurity Professional Career Paper: Digital Forensics Analyst

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Introduction

A digital forensics analyst has many processes of analysis of information (Ieong, 2006). This includes processes such as Recognition, Identification, Collection and Preservation, Individualization, Reconstruction, Reporting, Presentation, Examination, and Decision. Digital forensics analysts are important in the world because they are the ones that examine evidence of digital tampering as opposed to physical evidence. Both are important fields when trying to figure out how a crime was able to occur and the specific details behind it. The purpose of the paper is to explain the career and how it involves social science in the cybersecurity field.

Social science principles

This career plays a vital role in understanding human behavior. That's what forensics and the analysis of the evidence is trying to do and how they did it. This relates to the principles by applying objectivity to these hackers whether it's motive or how security systems were bypassed. By analyzing the psychology of hackers and their logic behind the crimes they commit, this data can be reported to the common people and employees to make training to combat these hackers.

Application of Key Concepts

This relates back to the module 5 notes on what motives that hackers that commit cybercrimes commit. Things such as for money, entertainment, politics, curiosity, revenge, boredom, recognition, or multiple reasons. Digital forensics analysts use this information to plan better security in the industry and make that information widespread and well known as possible. This is how we get cybersecurity frameworks, protocols, and how the professionals are able to manage risks. By catching these hackers by tracing them to public information and accounts, it can be ensured that they are within legal compliance. Professional Digital forensics analysts use maps, decision trees, and logical algorithms to determine motives. To implement these types of

logics objectively in machine learning there must be a dataset given to the machine. Outliers from the rest of the dataset is how machines determine outliers from normal points in data. (Guarino, 2013)

Marginalization

Marginalized groups tend to be affected by underrepresentation in the forensics scenes whether that be digital or not. The cybersecurity field is working on being more inclusive in the field by promoting an open mind to different values to have as many different brains working together as possible. By promoting a sense of "belonging" to people and other positive key words, a positive mindset can be forged within the forensics community going forward. (Goliath, Waxenbaum, & Borgelt, 2023)

Career Connection to Society

Digital forensics contribute a lot to the safety, stability, and security of society and societal infrastructures. They're basically covering the "what, where, who, when, and why" cybercriminals commit the crimes they do. They secure all sectors of a company from healthcares to the bank's sensitive information. The public policies related to cybersecurity tend to bring up arguments of privacy issues from the government in what they can spy on and protect the common man's privacy, as it's one of the rights given by the government.(Goliath, Waxenbaum, & Borgelt, 2023)

Scholarly Journal Articles

Source 1: The key finding in this paper is what digital forensics are and what the process they go through to reach their conclusion in their analysis. This paper also goes through the legal procedures and the information needed to prosecute said criminal.

Source 2: This article supports my argument of marginalized groups by providing evidence of the marginalization of other groups in the forensics community. It is also a solution to the problem to offer more support for different groups and mindsets to be encouraged in cybersecurity.

Source 3: This article contributes to my understanding of Digital Forensics to society and how important their role is in coming up with solutions to prevent hackers from getting unauthorized access to personal information. It also goes over key concepts in class such as the motivation of hackers and why they do it in the first place which is Forensics job.

Sources provided below.

References

Source 1: Ricci S.C. Ieong, FORZA – Digital forensics investigation framework that incorporate legal issues,Digital Investigation,Volume 3, Supplement,2006,Pages 29-36,ISSN 1742-2876,https://doi.org/10.1016/j.diin.2006.06.004

Source 2: Goliath, J. R., Waxenbaum, E. B., & Borgelt, T. S. (2023). Vulnerabilities for Marginalized Groups in the United States Forensic Anthropology Education System: Paths to Engagement and Belonging. Humans, 3(2), 126-136. https://doi.org/10.3390/humans3020011

Source 3: Guarino, A. (2013). Digital Forensics as a Big Data Challenge. In: Reimer, H., Pohlmann, N., Schneider, W. (eds) ISSE 2013 Securing Electronic Business Processes. Springer Vieweg, Wiesbaden. https://doi.org/10.1007/978-3-658-03371-2_17