

Career Paper – Cloud Security Engineer

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Cloud engineers are mid-level cybersecurity roles directly responsible for an organization's cloud platform security infrastructure. The cloud is an online, storage space for individuals and organizations to store their data, providing a shared space for resources and miscellaneous services over the internet. Utilization of the cloud improves efficiency by allowing organizations to access resources on-demand, foster collaboration, and minimize the costs of maintaining the physical infrastructure of a database.

Cloud security engineers must have comprehensive knowledge across several domains in the security field to employ their tools and coordinate with clients effectively. Although technical experience in this career is a necessity, many of these domains intersect with social sciences, shaping the role in significant ways. Human behavior models provide the insight required to help design and secure user-friendly cloud systems. These insights also assist cloud engineers carry out threat assessments and proper risk management that may relate to human factors, such as social engineering or insider threats. Soft skills, such as effective communication, derive theories from social sciences that many cloud engineers must develop as the quality of their work, considering the remote nature of cloud computing, depends on collaboration among different entities.

Human Factors

Understanding how humans use technology is at the forefront of any career in cybersecurity. Cloud engineers in particular must take into consideration how cloud services are being utilized in their organization to design, develop, and manage a user-friendly cloud architecture. Without considering human factors, a cloud engineer risks developing unfit security infrastructure or an unusable system, frustrating users and wasting an organization's fiscal resources.

Insights from the discipline of psychology aid cloud engineers significantly when designing security architecture and protecting cloud services. Social engineering tactics that exploit human psychology, such as phishing, pose significant threats to organizations. As a cloud engineer, knowledge of

these attacks and closely following how they're developing in the industry helps anticipate and mitigate an organization from potentially falling victim to them. If an organization relies heavily on the use of cloud services to operate, the security of the cloud relies heavily on the cloud security engineer's foundational knowledge of social engineering and up-to-date threat assessment.

Soft Skills

Cloud services attract organizations due to the lack of maintenance and real estate needed to maintain potentially large data centers. Servers for the cloud are located remotely all over the world for various service providers. Due to the remote nature of this technology, cloud engineers must have elevated soft skills, such as effective communication, to foster collaboration between external entities such as the cloud service provider and internally between various departments and teams of their organization.

Cloud security engineers work in virtually any social system, such as the education or healthcare domain, and must be able to flex and adapt to the needs of the organization as well as navigate differing styles of communication to maximize efficiency. Certain social behaviors that are emphasized in cybersecurity professions, such as systematic thinking and commitment to an organization's values are attributes that are overlooked but incredibly valuable to any cloud engineer who wishes to excel in performing their duties.

Conclusion

Cloud security engineers require a vast skill set and an all-encompassing foundation of knowledge to carry out their duties. They're responsible for designing and implementing the security architecture of an organization's cloud services. While naturally, this career is technical, cloud engineers navigate their duties utilizing various social sciences, such as psychology and human factors to ensure their work is effective.

The use of cloud-based data storage continues to grow, offering alternative and cheap methods of data storage to platforms without fiscal resources. Indirectly, maintaining the design and security framework

for cloud services helps less fortunate groups in society have access to data security options they may not have had otherwise. Cloud engineers directly help level out the playing field regarding enhanced data security by maintaining and securing cloud services, helping organizations as large as the Department of Defense and as small as a startup.

References

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