Emmanuel: Useful skills for network security

My name is Emmanuel and I am an offensive security engineer at Google. For offensive security, my job is to simulate adversaries and threats that are targeting various companies and I look at defending how we can protect Google's infrastructure. I make it harder to hack Google by actually hacking Google. The technical skills that I use is a lot of programming, as well as learning about operational and platform security. Knowing how these computers work, what is under the hood, and understanding the components that create this infrastructure. An entry-level cybersecurity analyst would look at using command lines, log parsing, and network traffic analysis in their everyday scope of work. Command line allows you to interact with various levels of your operating system, whether it's the low-level things like the memory and the kernel, or if it's high-level things like the applications and the programs that you're running on your computer. With log parsing, they're going to be times where you may need to figure out and debug what is going on in your program or application and these logs are there to help you and support you in finding the root issue and then resolve it from there. With this network traffic analysis, there may be times where you need to figure out why is my Internet going slow? Why is traffic not being routed to the appropriate destination? What can I do to ensure that my network is up and running? Network traffic analysis is looking at network across various application and network layers and seeing what that traffic is doing, how we can secure that traffic, as well as identify any vulnerabilities and concerns. In the contexts for me, for security, I look at: are passwords being leaked in the traffic that's being sent across the network? Are infrastructures being secured? Are firewalls being readily configured and configured safely? One skill that has continued to grow with me in my current role has been communicating effectively to product teams, engineers, and identifying an issue that is influencing or affecting the business, and communicating to those teams effectively to fix it. Being able to take on these many hats and explain things with the right business approach to things to ensure that the issues that I do find in my work are identified but there are also fixed. My advice to folks who are taking this certificate would take things apart, feel uncomfortable, learn and grow and find opportunities to learn and understand how things work and that skill set will benefit you for the remainder of your journey.

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