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Career Paper: Penetration Testing

Penetration testing or ethical hacking is one of the top-tier cybersecurity jobs and arguably one of the most important roles. As a penetration tester, you get to test the security infrastructure of a company or multiple companies. This role not only provides the cyber security analysts and security engineers reliable information on which to base their new projects on. This job utilizes many different tools and techniques that include software troubleshooting, networking, and analytics using different frameworks like Kali Linux and Rapid7's Metasploit. All of these tools run natively on all or almost all types of operating systems which makes the learning curve pretty easy since you won't have to learn a whole another operating system.

A penetration tester's job in society is to provide people with a sense of security due to them spotting the weaknesses in an IT system. People do not fully understand the security risks behind the services that they use every day such as Google, Facebook, or even TikTok. Each of these services requires some type of personally identifiable information such as names, email addresses, phone numbers, mailing addresses, and so on. Most people put in that information and never think about where it goes after they hit submit. Well, more than likely it goes to a data center or a center for storing information for services to use. Each of these data centers contains

hundreds of different servers storing all different types of data. It's up to the security analysts to get their information from the penetration testers to ethical hackers in order to show them the potential risks of data exposure to the outside world. These testers not only block unauthorized people from accessing your information but also keep the "tunnel" of information between the servers and your end devices secure.

Now these testers have a lot on their plates and it's only up to them and the companies that hire them to choose what they need to protect first. These people are the first and last line of defense between hackers and your information, they are the "firewall" or well the mortar that holds up the bricks and patches the holes in the "firewall". Socially IT professionals are grouped and usually named the "nerds" or "techies" and well yes this is true we are nerds and super cool tech people. We do have a very unknown and very underdeveloped place in society or the underdevelopedness of not being recognized in society. For the most part, cybersecurity is overlooked by the general public and people should be more aware of the people keeping them safe.

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