Thesis Defense

Computer Science Master's Program

"A Study on Ethical Hacking in Cybersecurity Education within the United States"

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Abstract:

As the field of computer security continues to grow, it becomes increasingly important to educate the next generation of security professionals. However, much of the current education landscape primarily focuses on teaching defensive skills. Teaching offensive security, otherwise known as ethical hacking, is an important component in the education of all students who hope to work in cybersecurity. Doing so requires a careful consideration of what ethical, legal, and practical issues arise from teaching students skills that can be used to cause harm. In this thesis, we first examine the current state of cybersecurity education in the United States through a holistic view of funding, certifications, and course offerings. We then offer a framework to navigate the ethical and legal issues of teaching offensive security, as well as a technical reference of useful tools for configuring and conducting a course in ethical hacking. Together, these contributions can serve as a baseline for educators looking to create courses on ethical hacking topics.

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Time: 9:00 AM
Location: 14-232b
Committee: Dr. Fang, Dr. Kazerouni, Dr. Peterson