Sent as Email

In your lecture, you mentioned that an email proposal would suffice; I have chosen that route as my request may be unique and I believe a conversation may work better than a formal submission. I am also available for a Zoom meeting if you prefer a more detailed discussion.

# Topic Proposal:

The rapidly evolving cybersecurity landscape, with its complex and labor-intensive strategies, has greatly benefited from the growing prominence of AI technology in recent years. Most notably, AI has proven crucial for cybersecurity endeavors such as penetration testing (PT), as it levels the playing field and enables defenders to effectively anticipate and mitigate threats. For my project, I hope to explore these AI technologies, ranging from foundational Machine Learning (ML) models to more complex neural network-driven approaches, and assesses their potential to enhance the efficiency and effectiveness of PT.

Overall, the primary objective of this project will aim to spread awareness of the vast potential inherent to the integration of AI at each phase of the PT process. By examining the role of AI in each PT phase individually, I hope to refine the understanding of how AI can complement traditional methods, improve PT outcomes, and explore the unique challenges and opportunities present in different stages.

# Why my Proposal may be Unique:

This topic has been a focal point of previous academic course, particularly during CSC 786 - Cyber Problems. In this course, I created a short seminar course comprised of eight lectures, supplemental materials, visual aids, and a literature review. I found the topic not only deeply intriguing, but also vastly under researched and I would appreciate an opportunity to build upon this prior research to enhance its depth and scope.

Also, I was contacted by my previous my previous course professor, [redacted], to refine my previous work and pursue publication. I believe that INFA 723 - Cryptography would provide a unique opportunity for me to refine and extend my previous work on this topic before beginning collaboration.

 However, if you deem it appropriate, I do want to emphasize that any work submitted for this course will be entirely independent and reflective of my own efforts.

 I am open to discussing my proposal in greater detail and addressing any questions or concerns you may have regarding the project scope or deliverables.