ECE 6612 Project Proposal

2/24/2021 – Nicholas Denu

1. Filtering Emails for Phishing Using Machine Learning – Nicholas Denu
2. The security issue that this project will address is the issue of phishing. Phishers have many different strategies for stealing from their victims through the use of malicious emails. These methods will be researched thoroughly and flaws in their deception will be analyzed. Some phishing techniques are link manipulation so that victims believe they are traveling to safe websites, but rather they are traveling to websites controlled by phishers, website forgery to make websites appear to be something that they are not.
3. There are many different anti-phishing filters in circulation currently being used by large email domains such as gmail.com. There are also several studies into using machine learning as a method to create phish filters. However, several of these attempts had very small sample sizes even though websites like phishtank.com have tens of thousands of proven, blacklisted phishing URLs. There are also other successful studies into scanning URLs and website code for phishing likeliness, but there are other methods used in emails that hide URLs in emails through the use of covert redirecting that make links appear legitimate.
4. My project will utilize machine learning strategies to create a filtering system for phishing emails using the python language. This filter will protect victims against phishers who do not have any prior knowledge of their victim, yet are capable of using most known varieties of phishing
5. Considering I am a distance learning student, I would prefer a recorded presentation if possible. I do work throughout the day so being available during class time would prove difficult.
6. While some projects similar to this have already been done by other people, I think there are so many different ways to implement something like this and I can even try different methods and compare them to really which ways are best for detecting phishing.