CSCI 706 - Guide to Comprehensive Exam in Data-Driven Security

The examination will be a mix of multiple choice and descriptive questions. Some questions may require determining output of or having to write python code for solving cybersecurity problems. The questions will appear from the following topics covered in the class.

1. A journey to data-driven security.
2. Building your analytics toolbox: a primer on using python for security analytics.
3. Getting, reading and exploring data
4. Performing exploratory security data analysis
5. Visualizing security data
6. Learning from security breaches
7. Regression analysis
8. Benefiting from machine learning
9. Extracting features from security data sets
10. Developing, validating and implementing a machine learning algorithm
11. Specific learning methods
12. Using supervised learning algorithms
13. Applying unsupervised learning algorithms
14. Ethics, fairness, responsibility and transparency in data-driven cybersecurity