

COSC 440 – Assignment #1 Fall 2020

Choose one of the following topics and write a 5-page (double spaced, 12 pt, Times New Roman font with 1” margins) paper on said topic:

- Cryptography
- Randomness
- Machine Learning
- Graph Theory
- Quantum Computation
- Game Theory

The content of your paper should include a broad summary of the field and must address why these would be considered in the realm of theoretical computer science (think of the three areas: automata, computability, complexity). Provide specific examples of projects being undertaken in the topic of your choice that are theoretical in nature (rather than applicative) and fully describe them. For example: “Research into problem X has revealed it to be in Y complexity class,” or “Technique A reveals a potential way to solve B problems” followed by a description. You must include at least 5 sources and wiki-based references are disallowed as a source (though you may reference it to provide guidance). No more than 3 completely web-based sources are allowed. Journal articles and conference presentations that have a web presence do not count against your web-based source limit.

Due: September 8th, 11:59pm, via Blackboard. Only docx and pdf formats accepted. You do not need to use LaTeX for this assignment.