

CSC-272: Alternative Options for Exams #2-#3

Due Date: April 24

1. **A 4-5 page research paper.** The paper should be in size 12 font, lines spaced 1 and ½ lines, with 1" margins top, bottom, left, and right, and demonstrate *your research* on a topic related to (but not necessarily directly from) the course material we've covered. If the topic is one we have discussed, your paper should add information/insights about it that we did not cover in class. Sources for the research material you use, including Internet sites, should be cited according to MLA guidelines. A few sample topics are given below, but the final topic is your choice subject to my approval and *need not come from this list*. Note that our supplemental text *Uncharted* could be a good starting point for interesting topics. Email me your topic so we can agree on it before you begin. **You should have a topic approved no later than April 10.**
 - The history of any particular data mining learning strategy, algorithm, or technique.
 - A thorough study of the workings and applications of a given algorithm – either of an algorithm we haven't covered, or much deeper than our study of one we have covered.
 - A deep-dive comparison of the features and effectiveness of two data mining algorithms.
 - The societal impact of data mining in general, or of specific machine learning applications, citing experts in computer science and/or sociology. This impact could be positive or negative.
 - The impact of data mining on a specific area of human endeavor – politics, marketing, sports, dating, etc.
 - The financial impact of data mining in general, or of specific machine learning applications.
 - How data mining has been implemented to solve a specific, focused problem. (Basically, any good News Journal entry could be expanded into a paper.)
 - How data mining as we have studied it applies to the broader field of artificial intelligence, and the opportunities and dangers thereof.
 - Substantive analysis of a movie relating to data mining or machine learning, such as *The Imitation Game*, *Margin Call*, *Moneyball*, or *Ex Machina*. Not a review, but research into a specific topic depicted in the movie related to the class, such as application of algorithms, text mining, different learning strategies, etc.
2. **Shorter papers (2 or 3 papers for a total of least 5 pages).** Papers should be in size 12 font, lines spaced 1 and ½ lines, with 1" margins top, bottom, left, and right. Each paper should demonstrate *your research* on your chosen topics. See the above list of sample topics—though you need not limit yourselves to these. For a shorter paper, focus sharply on specific components of the topics you choose. Once you choose your topics, email me so we can agree on them before you begin. **Have your topics approved no later than April 10.**