

Machine Learning (CS 419/519)
Take-Home Final Essay-Exam (40 points)
Due by 5:00 PM, Monday, 17 December 2018

The final exam will consist of a short paper, tying some use of machine learning technology in the world to things learned over the course of the semester in class. The essay should fit the following criteria:

- **Goal:** You are going to find something that interests you, and explain it. The essay should explain, as clearly as possible, the technology or application of technology. A reader who has taken our course should be able to understand the basic ideas of what is being done. You don't need to explain every technical detail of algorithms and the like, but you should give a good sense of how things work, what techniques are in use, and so forth. If the ideas being used are related to ones we learned about in class, discuss this a little.
- **Format and length:** The essay should be typed, double-spaced, with 11–12 point font. It should be in PDF format. The length, *not including* references and figures, should be:
 - **CS 419:** 5–6 pages.
 - **CS 519:** 8–9 pages.
- **Research element:** Your work should be based upon *no less than* 5 sources, which may include relevant chapters or sections of the textbook for the class. Citations should be given for any content used or quoted, and references should appear either in footnotes or as a separate section at the end of the essay. Try to use original sources when you can; it is fine to start with some web search and some Wikipedia browsing, but go beyond that. Note, for instance, that most serious Wikipedia articles have extensive references to scientific papers, books, etc., that are the sources of much of the information summarized in those articles. When you can, cite the original sources. Use a standard format, consistently, throughout. Remember that it is okay to paraphrase material from other sources, as long as you cite those sources. Similarly, if you take directly from other sources, then indicate this, by quoting and citing those sources.

Note: each chapter of the Russell and Norvig text ends with a section that gives original sources for the ideas discussed in that chapter. These, and the bibliography at the end of the text, are a good source of guidance to source material.
- **Grading:** Your work will be graded on clarity and completeness. Proper use of multiple sources will be expected, as will correctness of spelling and elementary grammar/punctuation.

Handing in the work: You will submit a PDF of your work via D2L dropbox. The usual late policy applies. Make sure to verify that the exam uploaded, or be sure to watch for alerts on D2L if it is not received by the late deadline.

Sample essay: An example of the sort of essay expected is included with this document. Use this as a guide to the level of detail, use of citations, and approach that is expected.