Assignment 1

Purpose

The goal of this assignment is to make you aware of a specific application of machine learning, and the practical issues that surround that, to give you a forum for expressing your interest in machine learning in a less technical format, and to initiate interaction and discussion with your peers.

Task (Part I)

This task has two parts. First, to write a short document about a machine learning application of your choice, that covers a number of specified issues about that application,

Please look through the following description of a machine learning problem and identify what you think the main practical benefit on using machine learning is for this context. Write a few paragraphs describing the main benefit. Submit that online by (). Note this is very soon! Then look at the paragraphs written by others, and see if they identified things that you missed. How might you change your writing now, in light of that submitted by others? Use those thoughts as a basis for the next exercise.

Task (Part II)

A number of example machine learning applications is listed here, along with examples.

1) Example 1
2) Example 2
3) Example 3
4) Example 4

Potentially starting with these as your base, or using your own initiative, find a specific practical application of machine learning that is described in sufficient detail on the WWW. Write an accurate technical news article about that application (think Scientific American, or Nature). In your news article be sure to detail the benefits from using this current machine learning over previous approaches, and the economic or other value that comes from the application of the approach. Spend some time elaborating on what the previous approaches were, and what their inadequacies were.

Give a clear description of the beneficiaries. Are there any detrimental implications of the approach? Give a broad description of the technical methods used to achieve the goal and why those methods are particularly able to achieve that goal. Are there any particular deficiencies and limitations of those methods? What problems are still outstanding? What other methods or questions may this development open up in the future? Please also discuss and practical, moral, social and ethical issues that may arise from the use of machine

learning in that application, and the potential future use of the developed technology. Finally, briefly discuss the related literature give references (technical, academic and non-technical).

Considerations

Your article should be measured and not show particular partiality or promotion. It should probably be a couple of sides of A4 in length. Work on improving the quality of what you say rather than increasing the length of what you say. You are likely to need to revise your writing at least 3 or four time.

Submit your article using *** by ().

Task (Part III)

The last part of the assignment is about providing peer review of your colleagues' articles.

The point of peer review is simply to help the author improve their article, and help make the author aware if they have not met the required standards for an article. It is definitively *constructive*.

Writing a good review does not mean you should be negative about someone's work; your goal is to provide well-argued, constructive criticism and suggestion based on the literature. This is the only way to help an author improve her/his work, and commenting in this fashion also increases your own credibility. Being negative based solely on personal intuition, or personal preference is completely unacceptable. A review may help an author improve the (a) language or use of English, (b) the argument, logic or consistency in the writing, (c) the authors knowledge and reflection on background material or (d) the technical accuracy of the statements being made.

You are strongly advised to read the following best practices for composing a sound peer-review.

CHI, (2005), "CHI Reviewing: A Guide and Examples," International Conference on Computer-Human Interactions. Retrieved June 15, 2009, fromhttp://www.chi2005.org/cfp/reviewing.html

Smith, A.J. (1990), "The Task of the Referee," Computer 23, 4, 65-71.http://dx.doi.org/10.1109/2.55470