

Case Study 4: Machine Learning

6.034 Fall 2003

<http://www.ai.mit.edu/courses/6.034f/>

Due: Monday, October 27, 2003

Read the Amazon Case Study at <http://dsonline.computer.org/0301/d/wllind.htm>. Make sure to hit “next page” and read all 8 pages of the study. Give a brief answer to each of the questions below.

Learning

- 1) Amazon case study is an example of a machine learning application. Given this context, what does it mean the machine to learn?
- 2) What is the significance of the amount of data one has for machine learning applications? Does the amount of data affect performance of learned models? What is the upper limit on the amount of data one needs for the most accurate model?

Compare and Contrast: Machine Learning v. Knowledge-Based Systems

- 3) What are some differences between machine learning methods and knowledge based methods that you can see from the Amazon case study?
- 4) One way of solving Amazon's recommendation problem involves using a rule-based system. Show examples of profiling and recommendation rules you would use for recommending movies to users.
- 5) What are the advantages of using a learning method instead of one of a search based or a rule based solution?