Machine Learning
Course Information

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Syllabus

- An Introduction to Machine Learning
- Linear Regression
- Logistic Regression and Softmax Regression
- Perceptron Algorithm
- Simple Neural Network and Back Propagation
- Generative Model vs. Discriminative Model
- Naïve Bayes Model
- K-means Clustering
- Application: Text Classification as an Example

Course Assessment

- In-class behavior (10%)
  - Questions/Answers
  - Some assignments to be finished in class
- Projects and oral presentations (40%)
  - Content
    - 1) The review of the machine learning model you chose;
    - 2) The implementation of the model;
    - 3) The report of the experimental results.
  - Note
    - 4-5 students/one group;
    - 15 minutes slides/presentation;
    - The contribution of each group member should be specified.
- Final examination (50%)
  - Open-book examination in English

References

- English Materials
  - Prof. Andrew Ng's machine learning course at coursera.org; (★, number of stars means the level of reading difficulty)
  - Prof. Andrew Ng's machine learning class at Stanford University [materials] [video]; (★★★)
  - Christopher Bishop. Pattern Recognition and Machine Learning, 2007. (★★★★★)
  - T. Hastie, R. Tibshirani, and J. Friedman. The Elements of Statistical Learning, 2001. (★★★★★)
- Chinese Materials
  - 周志华. 机器学习, 清华大学出版社, 2016. (★★)
  - 李航. 统计学习方法, 清华大学出版社, 2012. (★★★)

Any Questions?