Machine Learning Reading Group

Host: Sihong Xie

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Meeting Time: F 3:30-5:30   Location: BC 323

Course Description

Designed for PhD and Master students who are strongly interested in machine learning and want to go deeper into the the subject. Required for PhDs in Prof.Xie's research group. We will cover Chapters 2 - 9 of the book *Pattern Recognition and Machine Learning*.

Required Materials

Pattern Recognition and Machine Learning. Christopher M. Bishop. Springer. 2006.

Course Structure

The group will meet weekly for a 1.5 hour presentation and a 30 minutes discussion.

- One speaker will present materials in the assigned chapter in two lectures/weeks. The presentation is to derive formula on a blackboard. Slides can be used but not as a major medium. The speaker needs to prepare and send lecture notes (1-2 pages) to the audience on the day of the talk. The lecture notes shall include important equations and models to be covered.

- Within the audience: one person will be assigned to scribe notes for the presentation and the discussion. Each student will post questions 2 days before the talk for the speaker to answer. On the presentation, the audiences take turn to ask their questions.

- After the talk, all materials (notes, questions and answers) will be collected and shared with all students.

- If you find the materials hard, please schedule appointments with me for discussions before your talks — the talks need to be excellent to educate the audience.

Schedule

The schedule is tentative and subject to change.

Week 01, 08/28 - 09/01:   Chap 2 Probability distributions

- Speaker: Yidong
- Scriber: Chao

Week 02, 09/04 - 09/08:   Chap 2 Probability distributions

- Speaker: Yidong
- Scriber: Chao

Week 03, 09/11 - 09/15:   Chap 3 Linear models for Regression

- Speaker: Chao
- Scriber: Yidong

Week 04, 09/18 - 09/22:   Chap 3 Linear models for Regression

- Speaker: Chao
- Scriber: Yidong

Week 05, 09/25 - 09/29:   Chap 4 Linear models for Classification

- Speaker: Praveer
- Scriber: Youshan

Week 06, 10/02 - 10/06:   Chap 4 Linear models for Classification

- Speaker: Praveer
- Scriber: Youshan

Week 07, 10/09 - 10/13:   Chap 6 Kernel Method

- Speaker: Yidong
- Scriber: Chao

Week 08, 10/16 - 10/20:   Chap 6 Kernel Methods

- Speaker: Yidong
- Scriber: Chao

Week 09, 10/23 - 10/27:   Chap 7 Sparse Kernel Machines

- Speaker: Youshan
- Scriber: Praveer

Week 10, 10/30 - 11/03:   Chap 7 Sparse Kernel Machines

- Speaker: Youshan
- Scriber: Praveer

Week 11, 11/06 - 11/10:   Chap 8 Graphical models

- Speaker: Jiaxin
- Scriber: Youshan

Week 12, 11/13 - 11/17:   Chap 8 Graphical models

- Speaker: Jiaxin
- Scriber: Youshan

Week 13, 11/20 - 11/24:   Chap 5 Neural Networks

- Speaker: Chao
- Scriber: Jiaxin

Week 14, 11/27 - 12/01:   Chap 5 Neural Networks

- Speaker: Chao
- Scriber: Jiaxin

Week 15, 12/04 - 12/08:   Chap 9 Mixture Models and EM

- Speaker: Youshan
- Scriber: Yidong

Week 16, 12/11 - 12/15:   Chap 9 Mixture Models and EM

- Speaker: Youshan
- Scriber: Yidong