



浙江大学

ZheJiang University



人工智能研究所

Institute of Artificial Intelligence

Artificial Intelligence

Course Information

Donghui Wang
AI Institute@ZJU
Spring 2015



Outlines

- ◇ Teaching Staff and Contact Info
- ◇ Course Description
- ◇ Prerequisites
- ◇ Course materials and references
- ◇ Homework and grading



Teaching Staff and Contact Info

- ◇ Course No: (2014-2015-2)-21190770-0004286-1
- ◇ Classroom: Room 204, CaoGuangBiao West-Wing
- ◇ Date and Time:
 - Week 1~8
 - Monday 9:50pm~11:25pm,
 - Wednesday 8:00pm~9:35pm
 - Final Exam: to be notified



Teaching Staff and Contact Info

- ◇ Teacher:
 - Dr. Donghui Wang, dhwang@zju.edu.cn

- ◇ Teaching Assistants:
 - Yanan Li, Phd. Student, ynli@zju.edu.cn
 - Yuetan Lin, Phd. Student, linyuetan@zju.edu.cn

- ◇ Office hour:
 - Wednesday, 14:00–17:00
 - Room 608, CaoGuangBiao Building



Course Description

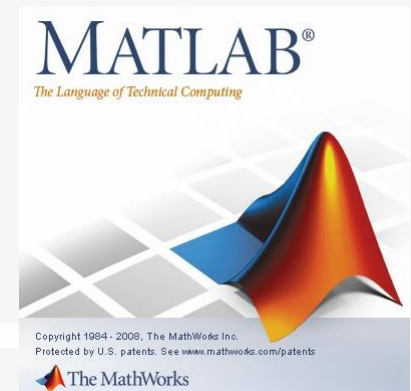
- ◇ Broad and brief introduction to artificial intelligence, but focus on machine learning and statistical pattern recognition.
- ◇ Topic include:
 - AI basic concepts: Turing test, history of AI, ...
 - Related math: Linear Algebra/Matrix computation, probability distributions
 - Supervised learning: regression, classification, SVM,...
 - Unsupervised learning: clustering, dimensionality reduction, kernel methods,...
 - Knowledge Representation
 - Decision Trees, Neural Networks
 - Discuss recent applications of ML to robots, data mining, visual recognition, cross-media retrieval and knowledge center...



Prerequisites

- ◇ Students are expected to have the following background:
 - Basic programming skills;
 - Familiarity with the basic linear algebra;
 - Familiarity with the basic probability theory.

- ◇ The following knowledge is recommended but not necessary:
 - To use Matlab tools
 - To use Optimization tools
 - Basic concepts of image formation and transformation





Course materials and references

◇ Course Website: <http://10.15.62.79/cv>

The screenshot shows a web browser window with the address bar displaying <http://10.15.62.79/cv/>. The page title is "Artificial Intelligence: Computer Vision and Machine Learning". A notification at the top right states "You are currently using guest access (Log in)".

Main menu

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Courses

Undergraduate Course

- Artificial Intelligence 2015**
 - Teacher: Donghui Wang
 - In this course, we will introduce some basic concepts, history and the current status of artificial intelligence, but focus on the fundamental theory, method and important algorithms of AI and machine learning. From this course, students should know the related mathematical basis, traditional AI, statistical inference basis, supervised learning, unsupervised learning, AI applications and etc..
- Artificial Intelligence 2014
- Artificial Intelligence 2013
- Logic and Computer Design Fundamentals 2011
- Logic and Computer Design Fundamentals 2010

Postgraduate Course

- Computer Vision 2014-A

Course Website for Artificial Intelligence, focus on Computer Vision and Machine Learning,

Supported by Dr. Donghui Wang,

Email: dhwang@zju.edu.cn,

Office: Room 608, CaoGuangBiao Main Building,

Institute of Artificial Intelligence

College of Computer Science and Technology

Zhejiang University, Yuquan Campus

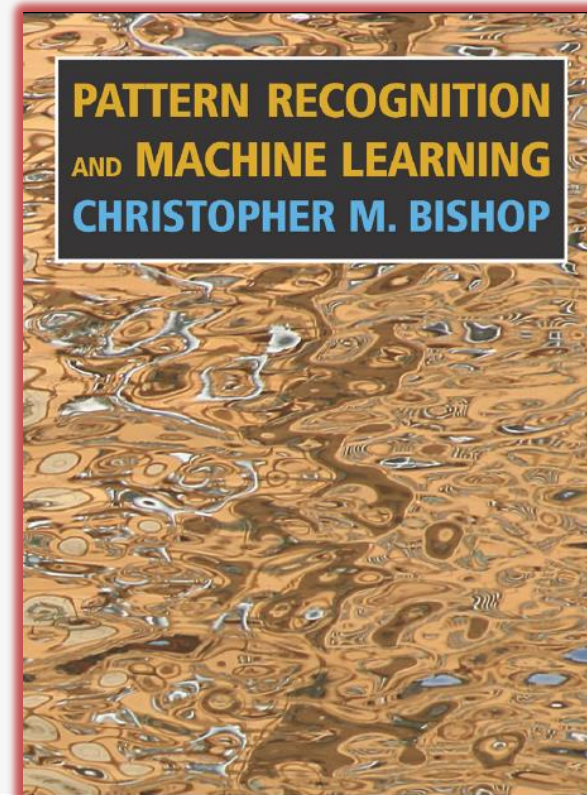
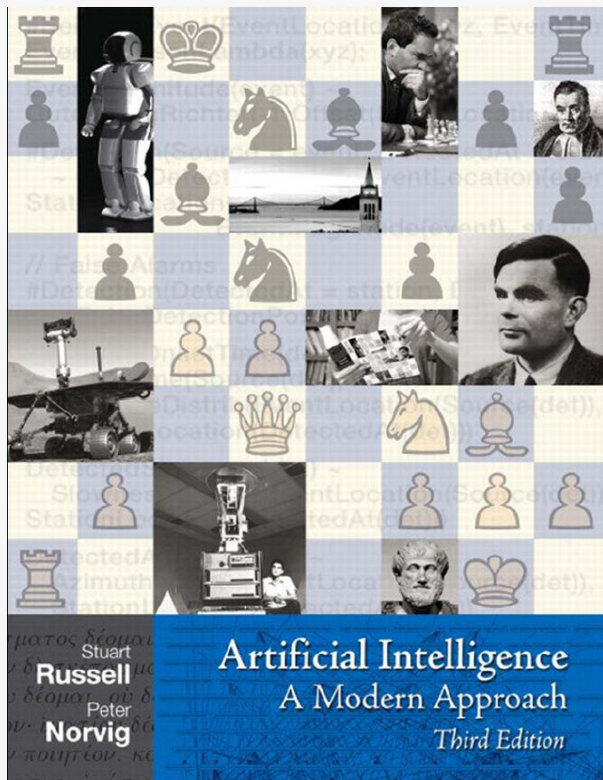
Zheda Rd.38, Hangzhou, China 310027

Calendar



Course materials and references

- ◇ Recommended reference books:





Course materials and references

- ◇ Referenced online resources:
 - <http://cs229.stanford.edu/info.html>, by Prof. Andrew Ng
- ◇ Video lectures:
 - <http://see.stanford.edu/see/courseinfo.aspx?coll=348ca38a-3a6d-4052-937d-cb017338d7b1>
- ◇ Other recommended online courses:
 - AI, ML, DA: <http://www.coursera.org/>



Course materials and references

◇ Matlab

- Interactive MATLAB Tutorial
- Getting Started with MATLAB and MATLAB Examples
- http://www.mathworks.cn/academia/student_center/tutorials/launchpad.html

◇ ML dataset:

- <http://archive.ics.uci.edu/ml/datasets.html>
- 235 Data Sets for:
 - ◇ Classification
 - ◇ Regression
 - ◇ Clustering.....





Course materials and references

◇ phthon: <https://www.python.org/>

The screenshot shows the Python.org homepage. At the top, there's a navigation bar with links: Python, PSF, Docs, PyPI, Jobs, and Community. Below this is the Python logo and a search bar. A secondary navigation bar contains links: About, Downloads, Documentation, Community, Success Stories, News, and Events. The main content area is split into two columns. The left column features a code editor with Python 3 arithmetic examples: `>>> 1 / 2` resulting in `0.5`, `>>> 2 ** 3` resulting in `8`, `>>> 17 / 3` resulting in `5.666666666666667` (labeled as float), and `>>> 17 // 3` resulting in `5` (labeled as floor division). The right column has a section titled "Intuitive Interpretation" explaining that calculations are simple with Python and that operators `+`, `-`, `*`, and `/` work as expected, with parentheses `()` for grouping. It includes a link to "More about simple math functions in Python 3." At the bottom of the page, a footer states: "Python is a programming language that lets you work quickly and integrate systems more effectively. >>> [Learn More](#)".



Course materials and references

◇ Journals:

- AI: Artificial Intelligence
- TPAMI: IEEE Trans on Pattern Analysis and Machine Intelligence
- JMLR: Journal of Machine Learning Research
- IJCV: International Journal of Computer Vision

◇ Conferences:

- IJCAI: International Joint Conference on Artificial Intelligence
- ICCV: International Conference on Computer Vision
- ICML: International Conference on Machine Learning
- CVPR: IEEE Conference on Computer Vision and Pattern Recognition
- AAAI: AAAI Conference on Artificial Intelligence



Homework and grading

◇ Homework:

- Four homeworks and 10 points each;
- The homeworks will contain written questions and questions that require some Matlab programming;
- Submit your homework (code) in time to get base score (7 points), other score (3 points) depends on your solution;
- Homework turned in late will be penalized 1 point per late day.

◇ Course grades:

- 40% on homeworks
- 10% on attendance
- 50% on final exam



Questions?

