Introduction to Artificial Intelligence

Syllabus

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CONTENT

1. Topic covers by AI courses
2. Goals
3. Teaching Plan
4. Grading
5. Resources
6. Course Policies

1. Topic covers by AI courses

- Problem solving by search (40% of a typical course)
  - Blind Search, Informed Search, Adversarial Search (Game)
- Knowledge Representation and Reasoning
  - Logic & Rule of Inference
- Planning

1. Topic covers by AI courses (cont)

- Learning
  - Neural Network
  - Genetic Algorithm
  - Decision Trees
  - Bayesian Nets
  - Deep Learning
- Applications
  - Natural Language Processing
  - Robotics,
  - Information Retrieval
  - Games, etc.

2. Goals

No.	Goal
1	Understand what artificial is and the related terminologies.
2	Understand the introduced searching algorithms and be able to recognize a practical problem as a searching problem.
3	Understand and be able to represent statements using logic representation.
4	Understand and be able to apply the introduced maching learning algorithms to solve the practical problems.

2. Goals (cont)

No.	Goal
5	Implement the learned algorithms using C/C++.
6	Comprehend the provided textbooks and references in English.
7	Work independently or in groups to solve problems using appropriate data structures and algorithms.

3. Teaching Plan

Week	Topic	Activities
1	Chapter 1: Introduction • Artificial Intelligent • Itelligent Agents	I1
2-5	Chapter 2: Problem Solving by Search • Blind Search • Informed Search • Constrant Satisfaction Problem • Adversarial Search (Game)	I2, I3 G1
6	Midterm Examination	
5-7	Chapter 3: Knowledge Representation and Reasoning • Propositional Logic • First Order Logic	I4 G2

3. Teaching Plan

No.	Topic	Activities
8-10	Chapter 4: Learning • Learning Decision Trees • Artificial Neural Network • Genetic Algorithms	I5
11	Other topics Final Review	

- Lecturer Info:
  - Email: nhminh@fit.hcmus.edu.vn
  - Office hour: 15:30 – 16:30 Friday – room I81

4. Grading

- Code **A1** (Assignments) – 50% credits

Code	Topic	Description	Rate
A11	05 individual assignments (I1—I5)	Small in-class test for each topic	15%
A12	02 group assignments (G1—G2)	Group work for each topic (homework and in class, no coding)	15%
A13	Quizzes	Small questions during class	10% (bonus)
A14	Homework	Reading and writing exercises for each student at the end of each chapter	10% (bonus)
		Total credits	**50%**

- Prepare pen, paper and calculator for class activities

4. Grading

- Code **A2** (Lab work) – 40% credits

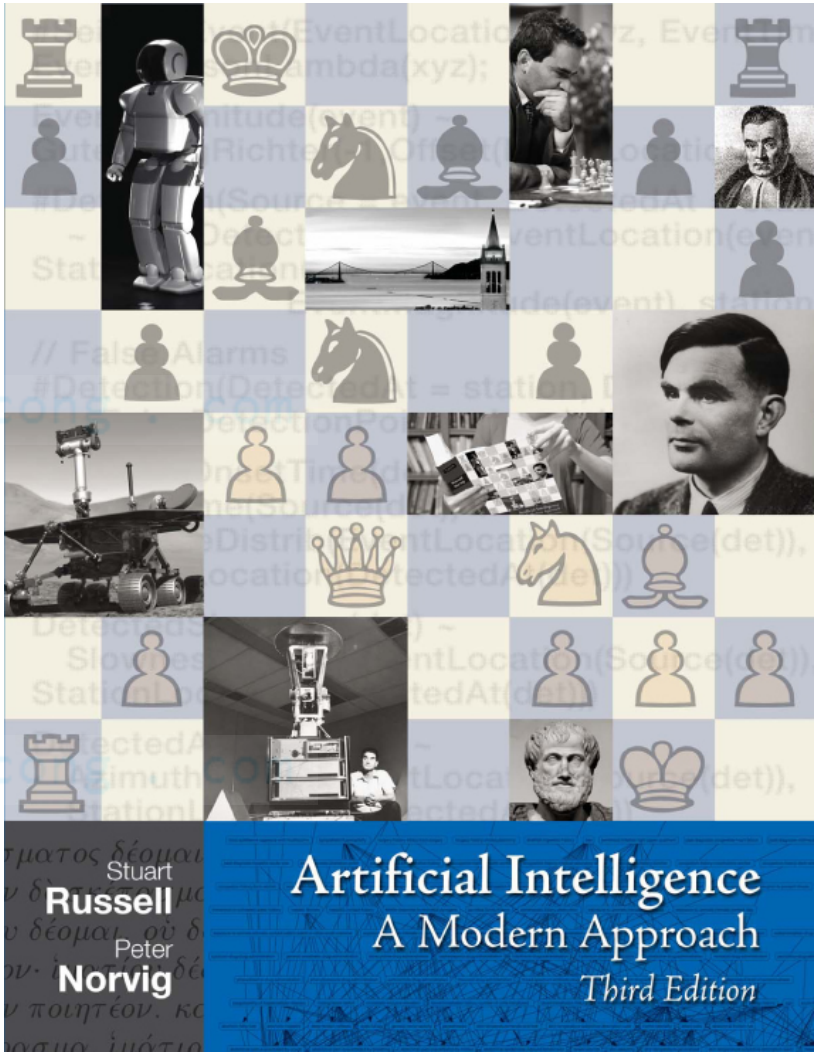
Code	Topic	Description	Rate
A21	Weekly Assignments	Practice programming learned topics (in class & homework)	10%
A22	Midterm Project		15%
A23	Final Project		15%

- Code **A3** (Exams) – 30% credits

Code	Topic	Description	Rate
A31	Midterm exam	Closed book exam.	10%
A32	Final exam		20%

5. Resources

- Textbook
  - S. Russell, and P. Norvig, "**Artificial Intelligence, A Modern Approach**", 3rd edition, Pearson Edition, Inc., 2010.
- Website:
  - http://aima.cs.berkeley.ed
  - Artificial Intelligence, MIT OpenCourseWare, Massachusetts Institute of Technology, Spring 2005.



5. Resources

- Language:
  - C/C++
  - Integrated Development Environment (IDE):
    - Any C/C++ IDE
    - Visual Studio 6 or newer is preferred.
- Tool:
  - Weka: a data mining software

6. Course Policies

- What you should do:

6. Course Policies

- What you are prohibited:

Q&A

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