FACULTY OF INFORMATION TECHNOLOGY

Artificial Intelligence Fundamentals (NM TTNT)

Semester 1, 2023/2024

Information

- Name:
  Artificial Intelligence Fundamentals
- Credit points: 4
- Lectures: 45 h
- Labs: 30 h

- Name:
  Van Du Nguyen, Ph.D.
- Email:
  nvdu@hcmuaf.edu.vn

Course

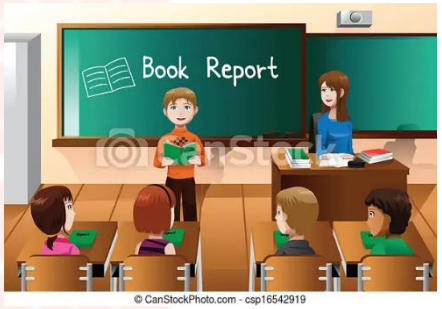
Lecturer

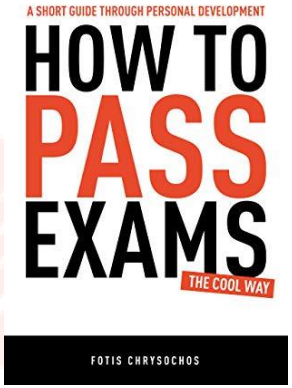
Content

- Chapter 1. Introduction to Artificial Intelligence
- Chapter 2. Intelligent Agents
- Chapter 3. Uninformed Search
- Chapter 4. Informed Search
- Chapter 5. Game
- Chapter 6. Logical Agents
- Chapter 7. First-Order Logic
- Chapter 8. Learning Agents

Assessment

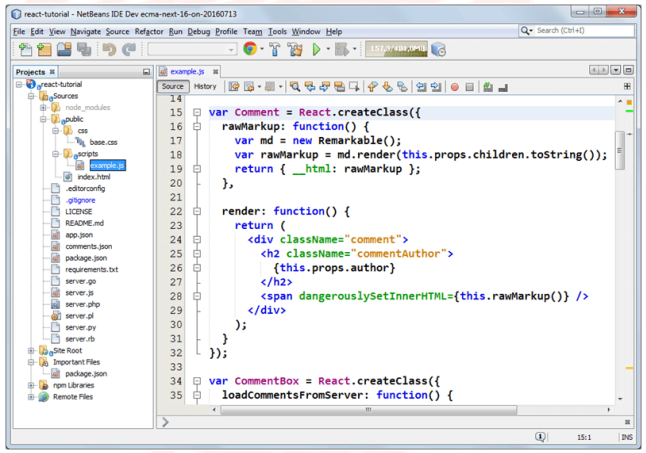
- Attendance: 10%
- Labs: 20%
- Project: 20%
- Final exam: 50% (writing test)

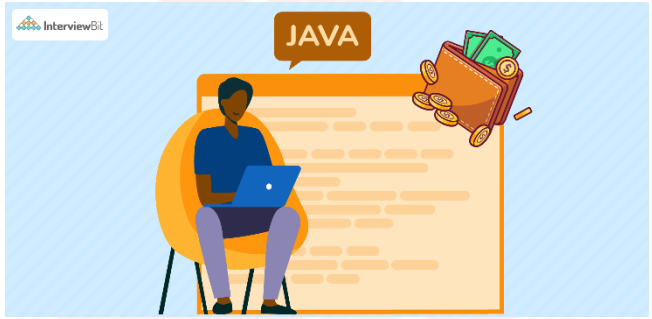




Assessment: Labs

- Coding assignments:
  - 20% of the grade,
  - Programming assignments.
- Collaborations:
  - Individual assignments
- Programming language:
  - Java



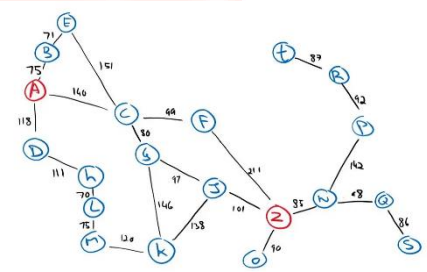


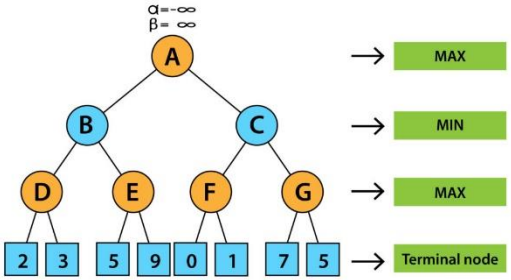
Assessment: Project

- 20% of the grade
- ~4 students/group
- Survey an AI techniques/applications in a specific field

Assessment: Final exam

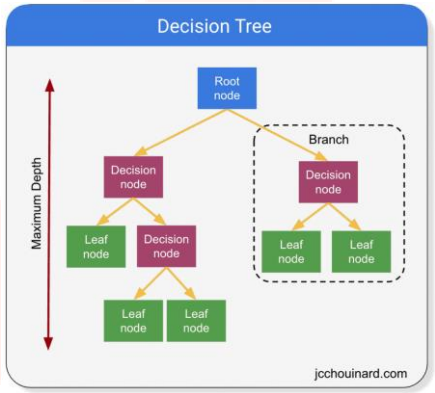
- 50% of the grade
- All course contents are possible
- Writing test





∧	*and* [conjunction]
∨	*or* [disjunction]
⇒	*implies* [implication]
¬	*not* [negation]
∀	*For all*
∃	*There exists*

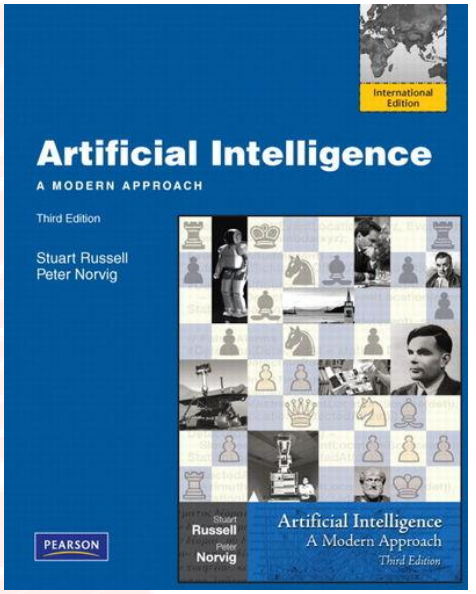
English	First-Order
At least one x is P	$\exists x P(x)$
All x are P	$\forall x P(x)$
Some x are P	$\exists x P(x)$
Not all x are P	$\exists x \neg P(x)$
No x are P	$\forall x \neg P(x)$



Material

- Course textbook:
  - S. Russell and P. Norvig, *Artificial Intelligence: A Modern Approach* Third Edition, Prentice Hall, 2010.

  https://bit.ly/2S9nNwm



- Other textbooks:
  - E. Charniak and D. McDermott, Introduction to Artificial Intelligence, 1999, Second Edition.
  - J.Finlay and A.Dix, Introduction to Artificial Intelligence, UCL Press Limited, 1997.
  - N.Forbes, Imitation of Life: How Biology is Inspiring Computing, Cambridge MA, MIT Press, 2004.
  - M.Sipper, Machine Nature: The Coming of Bio-Inspired Computing, Cambridge MA, MIT Press, 2002. (ISBN 0071387048*).*
  - …

Course textbook: AIMA

http://aima.cs.berkeley.edu/

http://norvig.com/gsoc-ideas.html

AIMA Home ⌂
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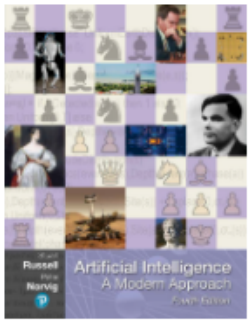


Artificial Intelligence: A Modern Approach

(Fourth edition, 2020)

by Stuart Russell and Peter Norvig

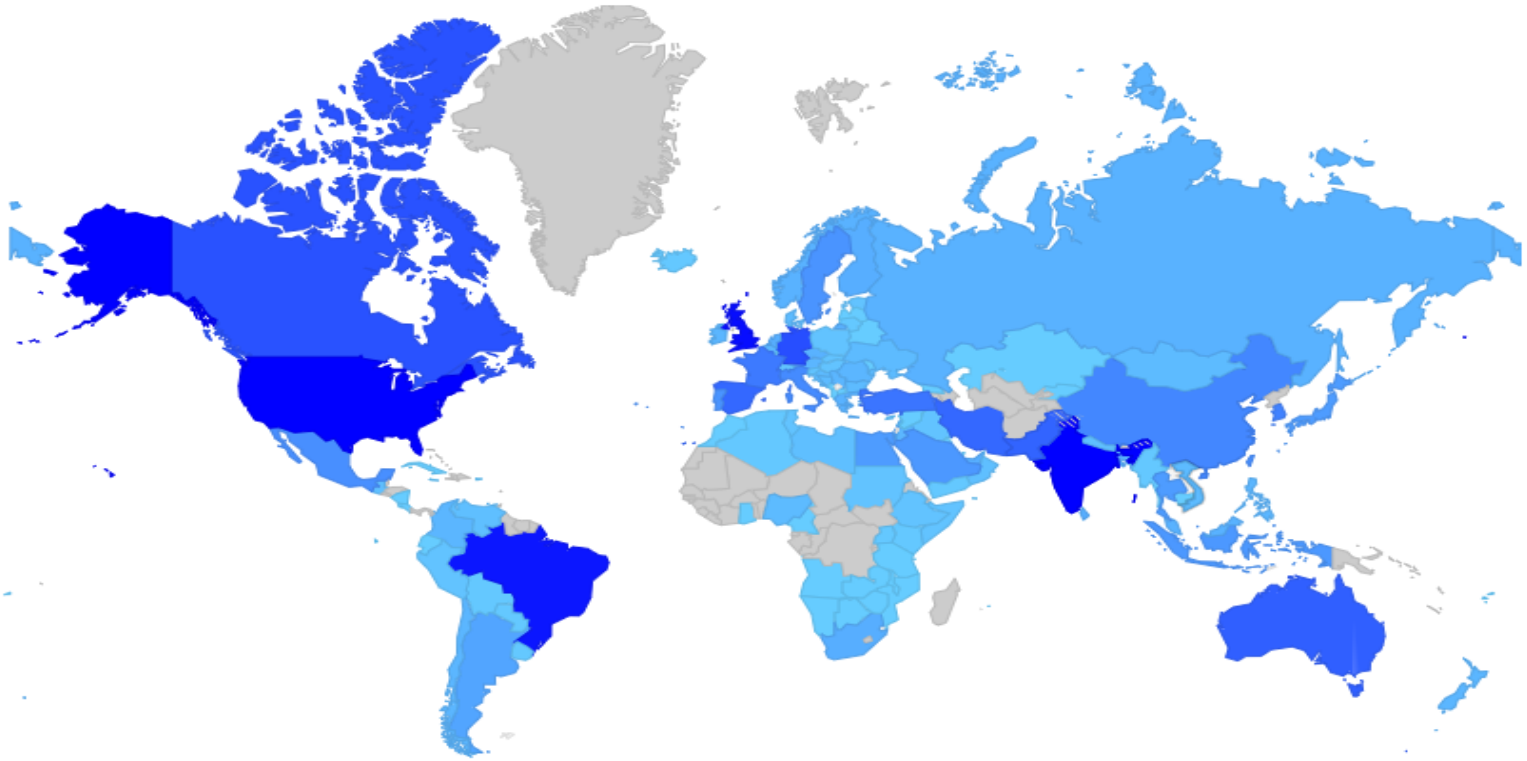
The leading textbook in Artificial Intelligence, used in 1500 schools in 135 countries and regions.

Table of Contents

Course textbook: AIMA (cont.)

1408 Schools Worldwide That Have Adopted AIMA

Artificial Intelligence: A Modern Approach has been adopted for use by at least **1408 schools** in **128 countries** or regions. Please let peter@norvig.com know of any we missed. Hover over a country in the map or word cloud below to see the number of adoptions. Each @ after a school name links to a course.



Education

- AI:
  - FPT University (2019)
  - Hanoi University of Science & Technology (2019)
  - University of Technology and Education Ho Chi Minh city (2019)
  - Industrial University of Ho Chi Minh City (2020)
  - …
- Data Science:
  - Hanoi University of Science & Technology (2019)
  - Ho Chi Minh City University of Science (2020)
  - International University – VNU-HCM (2020)
  - University of Information Technology (2020)
  - Banking University HCM (2020)
  - …

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