Lecture 1: Introduction

Artificial Intelligence
CS-GY-6613-I

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This course

- An introduction to artificial intelligence (AI)
- Prerequisites: intermediate programming skills, an algorithms and data structures course, interest in the topic
- Meant to give you both an overview of the field, knowledge of useful methods and hands-on experience with implementing algorithms

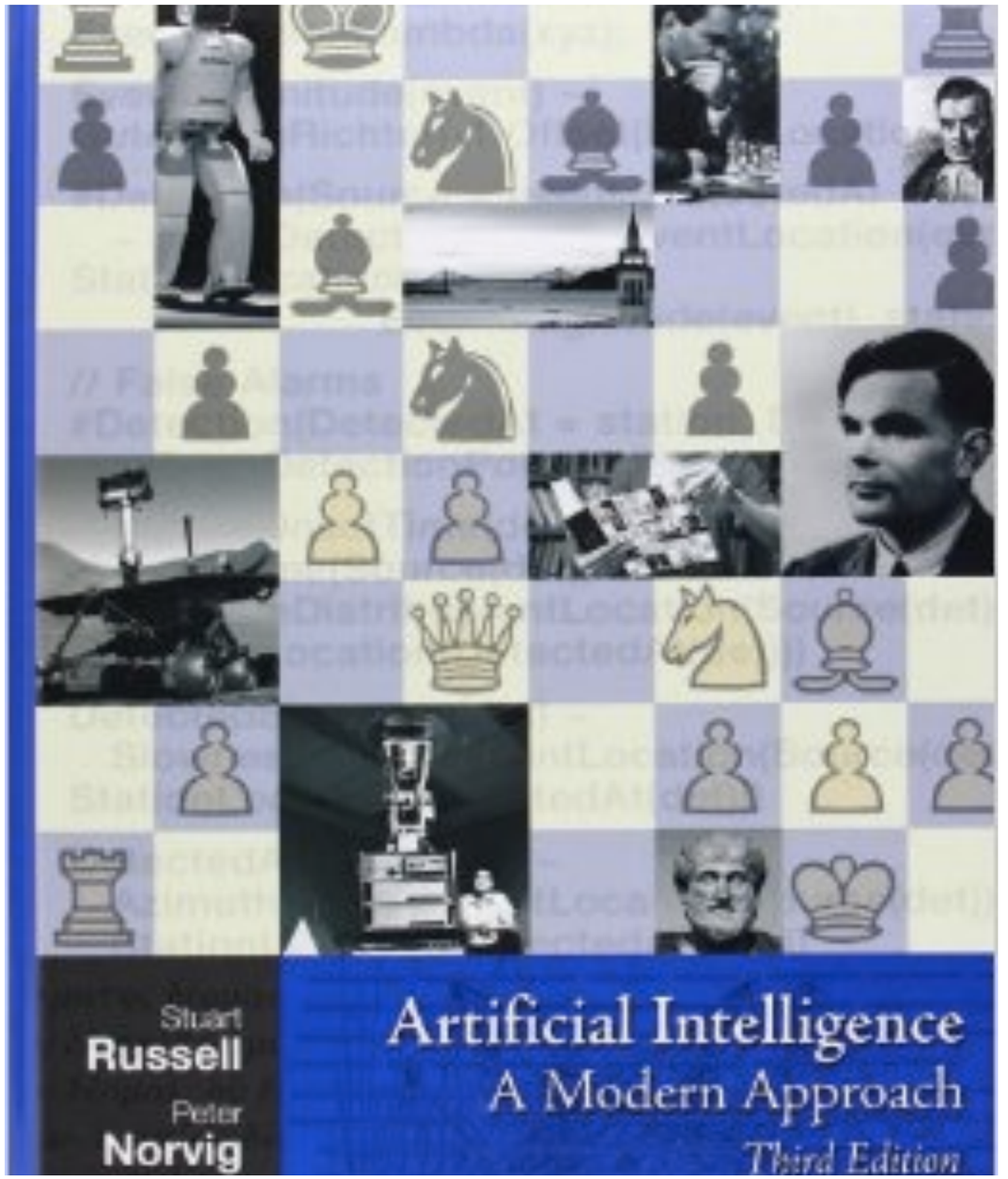
AI for Games

- Advanced course given next spring

- Builds on this course, and focuses on the application of AI to games (mostly videogames)

Course literature

- "Artificial Intelligence: a Modern Approach" by Russell and Norvig
- Classic book, very comprehensive and useful but a bit old-fashioned
- The course will not strictly follow the book, and less than half of it will be covered
- Two additional readings on MCTS and evolutionary computation; see the "resources" section of Classes



Who am I?

- From Malmö, Sweden
- Studied: Lund (Sweden) >> Sussex >> Essex (UK)
- Worked: Lugano (Switzerland) >> Copenhagen >> NYU
- philosophy + psychology >> artificial intelligence + robotics >> games
- Current research focus: AI in games (player modeling, procedural content generation, evolutionary computation)

Who are we?

- Professor: Julian Togelius
- PhD student TAs:
  - Rodrigo Canaan, Megan Charity, Catalina Jaramilla
- Master's student TAs:
  - Dipika Rajesh, Brandon O'Shea

Flipped Classroom

- Lectures will be pre-recorded
    - More and shorter lectures than usual, because they are non-interactive
- Class meetings are for interactions
    - Going through the weekly exercise
    - Questions, answer and general discussion
- NYU Classes forums for discussing with TAs and me
- TA hours for discussing with TAs (in particular about assignments)

TA sessions

- TA sessions will be held every week, probably several times a week (details to be worked out)
  - Online only
- Ask TAs about
  - The course material
  - The exercises
  - The assignments

Grading (preliminary)

- 15% essay questions
- 75% assignments
- 10% weekly exercises
- Potential extra credit from an optional competition

Assignments

- Implement key algorithms from the course in Python
- There will (preliminarily) be 5 assignments
- Some of these will use a framework based on the game Sokoban
- Implementations must be your own!

Exercises

- Generally easy
- One per week
- We will do them together during class meetings

How to fail this course

How to fail this course

- Plagiarize code

Other rules

- Post questions on classes forum and/or go to office hours; don’t send emails!

- No plagiarism, please