Artificial Intelligence

0. About This Lecture
Who will do What, How, When, and What For

Jörg Hoffmann    Wolfgang Wahlster

Summer Term 2012
Agenda

1. About the Organization
2. About Jörg Hoffmann
3. About the Content
4. About the Slides
5. About the Exercises and Exam
Lectures:

- **Time:**
  
  Tue 12:15-13:45;
  
  Wed 16:15-17:45

- **Place:**
  
  Building E1 3, HS II
  
  (right here)

- **Lecturers:**
  
  Prof. Jörg Hoffmann
  
  (hoffmann@cs.uni-saarland.de)
  
  Prof. Wolfgang Wahlster
  
  (wahlster@dfki.de)

Exercises (aka Tutorials):

- **Organizers:**
  
  Dr. Dominikus Heckmann
  
  (Dominikus.Heckmann@dfki.de)
  
  Dr. Patrick Gebhard
  
  (patrick.gebhard@dfki.de)

- **“Bremser”:**
  
  Mohamed Hamed
  
  (mhamed@studcs.uni-sb.de)
  
  Ahmad Ibrahim
  
  (ahmad-ibrahim@hotmail.co.uk)

http://w5.cs.uni-saarland.de/teaching/ss12/ki/
Questions about lecture organization:

- Dominikus Heckmann
- Tuesdays 11:30 – 12:00
- Building E1 1, room 1.24

Questions about content/general questions:

- Come to the front directly after the lecture
- (Limited to 10 minutes overall)

Interested in HiWi job and/or MSc thesis in AI?

- hoffmann@cs.uni-saarland.de (Foundations of AI, Planning)
- wahlster@dfki.de (DFKI: Intelligent User Interfaces & lots more)
How I Came to Be Here

Cornell Univ, USA
Uni SB
MPI SB
SAP, KA
INRIA, Nancy
Uni HD
Uni Innsbruck
Uni FR
What I Am Doing at the Moment

- Doing this lecture for the first time . . .

- Organizing AAAI . . .
  - The 26th American Conference on Artificial Intelligence
  - > 1100 scientific articles submitted
  - > 2000 authors
  - > 600 people involved in reviewing these articles
  - . . . anytime anyone of them has a question, they email: me.
What I Like Doing

Research in Foundations of Artificial Intelligence:

- How to effectively solve huge search problems?
- Understand how these algorithms behave!
- Mixture of maths, programming, experiments, applications.

Asking You Questions!

- Speaking 90 minutes at a stretch is exhausting . . . (ever tried yourself?)
- . . . and requires making incredibly many slides.

- So, be warned: I’m gonna ask you, and wait for the answers . . .
Lecture Material

Most of the lectures are based on

**Artificial Intelligence: A Modern Approach, Third Edition**

Stuart Russell and Peter Norvig (RN)

Many illustrations have been taken from RN. Many of the slides are adapted from those by Profs. Burgard, Nebel, and Riedmiller (University Freiburg).
Lecture Structure

Strongly method-oriented.

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Material</th>
<th>Lecturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General Problem Solving</td>
<td>None</td>
<td>Hoffmann</td>
</tr>
<tr>
<td>2. Intelligent Agents</td>
<td>RN 2</td>
<td>Hoffmann</td>
</tr>
<tr>
<td>3. Search</td>
<td>RN 3, 4</td>
<td>Hoffmann</td>
</tr>
<tr>
<td>4. Propositional Reasoning</td>
<td>RN 7, Citations</td>
<td>Hoffmann</td>
</tr>
<tr>
<td>5. First-Order Reasoning</td>
<td>RN 8, 9</td>
<td>Hoffmann</td>
</tr>
<tr>
<td>6. Planning</td>
<td>Citations</td>
<td>Hoffmann</td>
</tr>
<tr>
<td>7. RDF, DL, OWL</td>
<td>TBA</td>
<td>Wahlster</td>
</tr>
<tr>
<td>8. Production Systems</td>
<td>TBA</td>
<td>Wahlster</td>
</tr>
<tr>
<td>9. Probabilistic Reasoning</td>
<td>RN 13, 14</td>
<td>Hoffmann</td>
</tr>
</tbody>
</table>
Slides Availability

**Pre-Handouts:**

- **Content:**
  - Talk slides *without* answers to questions

- **Availability:**
  - 1 day before lecture date
  - 1 slide/page
  - 4 slides/page ("-4up")

**Post-Handouts:**

- **Content:**
  - Talk slides *with* answers to questions
  - Corrections, if applicable

- **Availability:**
  - Within the week of the lecture
  - 1 slide/page
  - 4 slides/page ("-4up")

http://w5.cs.uni-saarland.de/teaching/ss12/ki/
You must Register!

→ **For an exercises group:**

- Mon 14:00-16:00, Building E1 3, SR 014
- Mon 16:00-18:00, Building E1 3, SR 107
- Thu 14:00-16:00, Building E1 3, SR 107
- Fri 12:00-14:00, Building E1 1, SR U12
- Registration required on lecture web page until April 27.

→ **For the exam:**

- Registration required on lecture web page until April 27.
- **Subscribe/unsubscribe on HISPOS until July 11.**

http://w5.cs.uni-saarland.de/teaching/ss12/ki/
Exercises

Exercises available:

- Lecture web page, Wednesday of week $X$
- **First exercise**: 25.4. **Last exercise**: 28.6.
- 10 exercise sheets, each 10 points

You submit your solutions to us:

- **Before** wednesday lecture of week $X+1$: written solutions collected in front of Dr. Heckmann’s office, Building E1 1 Room 1.25
- **No co-authored solutions!** Everybody submits their own solution

Exercise groups:

- Week $X+2$
- **You must deliver a solution on the blackboard at least once!**
- You may be asked to deliver any solution you submit.
  - **Successful delivery yields 3 extra points!**

http://w5.cs.uni-saarland.de/teaching/ss12/ki/
Exam

Exam quick facts:

- Wednesday July 25
- 16:00-18:00
- Building E1 3, HS II (same as lectures)
  → Entry requirement: 50% of exercise points
  → Final grade: score of exam

Tips for exam:

- Wednesday July 18
- 16:15-17:45
- Explain exam structure, content topics; example exercise

http://w5.cs.uni-saarland.de/teaching/ss12/ki/
2nd Exam

2nd Exam quick facts:

- End September 2012; Building E1 3, HS II
- Registration required on lecture web page between July 25 and September 1

2nd Exam rules:

- Exam entry same as for 1st exam (50% exercise points, at least one solution delivered on blackboard)
- If you do take the 1st and 2nd exam, then the better score counts

Warning!

- The 2nd exam will be harder . . .
- . . . after all, you got much more time to learn for it.

http://w5.cs.uni-saarland.de/teaching/ss12/ki/