Planning and Optimization

A1. Organizational Matters

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Universität Basel

September 16, 2020

People & Coordinates

People: Lecturers

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Lecturers

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Time & Place

Lectures

- most of the lectures will be asynchronous (pre-recorded)
- recapitulation and Q&A on Zoom every Wednesday 14:15

⇝ Q&A session for exam preparation on December 16

Exercise Sessions

- on Zoom every Wednesday 16:15–18:00
- first meeting September 23

Planning and Optimization Course on the Web

Course Homepage

`https://dmi.unibas.ch/en/academics/computer-science/courses-in-fall-semester-2020/lecture-planning-and-optimization/`

- course information
- slides
- exercise sheets and materials
- bonus materials (not relevant for the exam)

registration:

- `https://services.unibas.ch/`
- Please register today to receive all course-related emails and get access to the course on ADAM and Courses

Planning and Optimization Course on ADAM

ADAM

`https://adam.unibas.ch/`

- learning modules
- model solutions for exercise sheets
- forum for announcements and questions
  (followed by lecturers, assistant and tutors)
- link to discord server (for interaction among participants)

Planning and Optimization Course on Courses

Courses

`https://courses.dmi.unibas.ch/`

- submission of your solutions to the exercise sheets
- your exercise results (marks)

Target Audience & Rules

Target Audience

target audience:

- M.Sc. Computer Science
  - Major in Machine Intelligence:
    module Concepts of Machine Intelligence
  - Major in Distributed Systems:
    module Applications of Distributed Systems
- M.A. Computer Science (“Master-Studienfach”)
  module Concepts of Machine Intelligence
- other students welcome

Prerequisites

prerequisites:

- general computer science background: good knowledge of
  - algorithms and data structures
  - complexity theory
  - mathematical logic
  - programming
- background in Artificial Intelligence:
  - Foundations of Artificial Intelligence course (13548)
  - in particular chapters on state-space search

Gaps?

$\rightsquigarrow$ talk to us to discuss a self-study plan to catch up

Exam

- no physical exam; exact setup still to be determined
- original plan: January 27
- 8 ECTS credits
- admission to exam: 50% of the exercise marks
- final grade based on exam exclusively
- no repeat exam

Exercise Sheets

exercise sheets (homework assignments):

- solved in groups of 2–3 students (note: $1 < 2$, $3 < 4$), submitted via Courses
- project-oriented assignments
  - each exercise sheet covers one part of the lecture (typically 1.5–2 weeks = 6–8 chapters)
  - substantial in scope $\rightsquigarrow$ don't start too late
  - handed out at beginning of each part
  - work on these while we cover this part in the lecture
  - due Sunday after the end of the part
  - scope and marks proportional to covered topics
- mixture of theory, programming and experiments
- research aspects $\rightsquigarrow$ be independent, but ask questions!

Programming Exercises

programming exercises:

- part of regular assignments
- solutions that obviously do not work: 0 marks
- work with existing C++ and Python code

Exercise Sessions

exercise sessions:

- discuss past homework assignments
- ask questions about current assignments (and course)
- work on homework assignments
- sometimes live exercises

Plagiarism

Plagiarism (Wikipedia)

Plagiarism is the "wrongful appropriation" and "stealing and publication" of another author's "language, thoughts, ideas, or expressions" and the representation of them as one's own original work.

consequences:

- 0 marks for the exercise sheet (first time)
- exclusion from exam (second time)

if in doubt: check with us what is (and isn't) OK before submitting

exercises too difficult? we are happy to help!

Course Content

Learning Objectives

Learning Objectives

- get to know theoretical and algorithmic foundations of classical & probabilistic planning and work on practical implementations
- understand fundamental concepts underlying modern planning algorithms and theoretical relationships that connect them
- become equipped to understand research papers and conduct projects in this area

Course Material

course material:

- slides (online + printed handouts)
- no textbook
- additional material on request

Virtual Machine

- programming exercises:
  we provide a Vagrant virtual machine running Linux
  - setup: follow instructions in `setup-virtual-machine.pdf` linked on the course homepage under "Exercises"
  - you can do your own native setup instead (but no support!)
- we provide a Git repository with code to work with
  - this includes all demos used in the course

Your First Task

- before the first exercise session (next Wednesday), set up the virtual machine
- when encountering problems, contact assistants until Sunday, September 20

Under Construction...

- Advanced courses are close to the frontiers of research and therefore constantly change.
- We are always happy about feedback, corrections and suggestions!