Automated Planning

A1. Organizational Matters

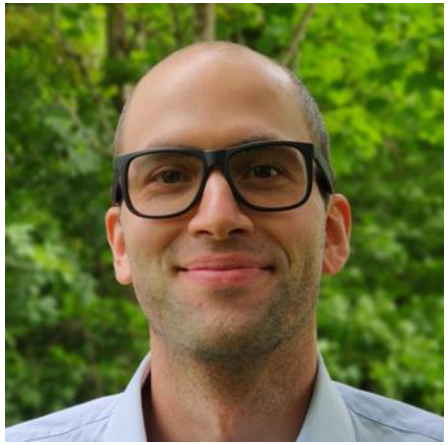
Jendrik Seipp

Linköping University

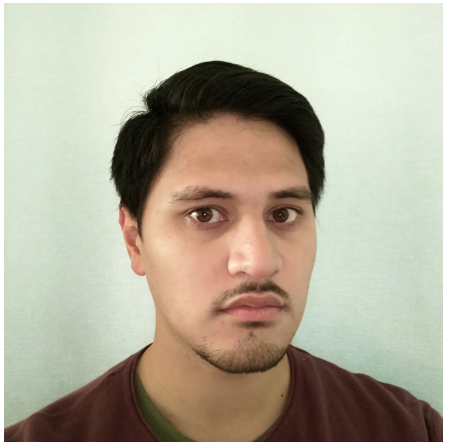
based on slides from the AI group at the University of Basel

People & Information

Lecturer and Assistant



Jendrik Seipp



Mika Skjelnes

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Official Links

Lectures

- Syllabus:
  `https://studieinfo.liu.se/en/kurs/TDDD48/vt-2024`
- Schedule:
  `https://cloud.timeedit.net/liu/web/schema/ri167XQQ538Z50Qm07065gZ6y2Y7303Q6Y43Y1.html`

Communication Channels

- lecture sessions
- lab sessions
- course homepage: `https://mrlab.ai/tddd48/`
- Padlet: `https://padlet.com/jendrikseipp/tddd48`
- email

Prerequisites & Rules

Prerequisites

prerequisites:

- general computer science background: knowledge of
  - algorithms and data structures
  - complexity theory
  - mathematical logic
  - programming
- background in Artificial Intelligence:
  - Artificial Intelligence (TDDC17)
  - in particular lectures on state-space search

Gaps?

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

Examination

- laboratory work (3 points, pass/fail):
  at least 4/12 points per lab, at least half of the points in total
- written digital exam (3 points, graded)
- two repeat exams
- final grade based on exam exclusively

Lab Assignments

- solved in groups of two or three ($3 < 4$), submitted in Git repo, link sent to assistant
- weekly assignments
  - released on Monday
  - have questions or need help?
    $\rightsquigarrow$ assistance provided in Lab sessions
  - not sure if you need help?
    $\rightsquigarrow$ start before Lab session!
  - due following Monday at 8:00 a.m.
- mixture of modeling, programming, experiments and theory
  - pen-and-paper exercises directly prepare for exam
- range from basic understanding to research-oriented

Lab Sessions

lab sessions:

- discuss past assignments
- ask questions about current assignments (and course)
- work on assignments

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:

- duty-bound to report suspected cases of cheating to the University Disciplinary Board
- link with more information

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

labs too difficult? we are happy to help!

Course Content

Learning Objectives

Learning Objectives

- get to know theoretical and algorithmic foundations of classical 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)
- no textbook

Virtual Machine

- We use a virtual machine (VM) for the exercises and for demos during the lecture.
- Setting up the VM is your first task for the exercises.

Priming the Virtual Machine (TL;DR Version)

Assumptions: VirtualBox and Vagrant installed

VirtualBox: `https://www.virtualbox.org`

Vagrant: `https://www.vagrantup.com`

on Ubuntu 22.04: `sudo apt install virtualbox vagrant`

One-time setup of the Virtual Machine

Download the `Vagrantfile` from the course homepage
and put it into an empty directory.

Open a console in that directory and execute `vagrant up`.
(This can take quite a long time.)

Logging in to the Virtual Machine

Open a console in the directory with the Vagrantfile
and execute `vagrant ssh`.

Demo Examples

When working on the VM, go to the base directory for the course:

Base Directory for Demos and Exercises

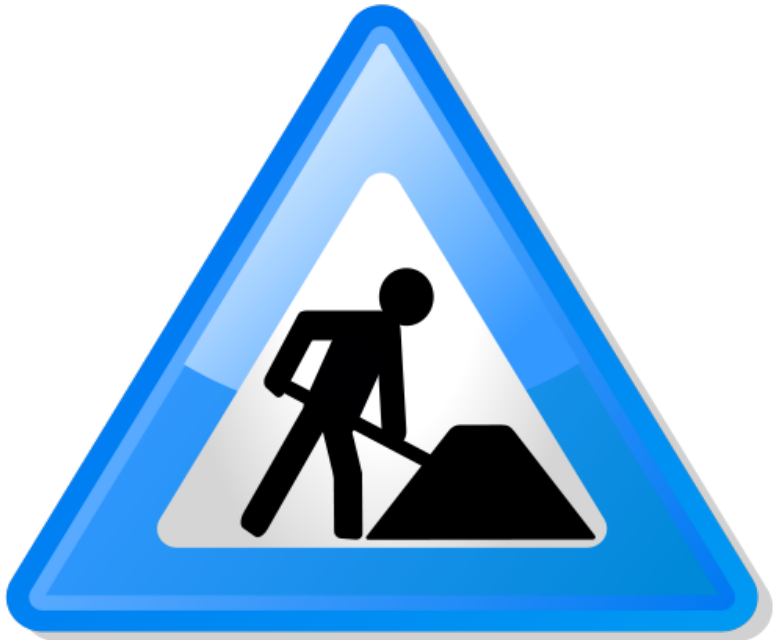
```
$ cd /vagrant/tddd48
```

One-time demo set-up (from the base directory):

Demo Set-Up

```
cd demo/fast-downward
./build.py
```

Under Construction...



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