Automated Planning

Z1. Planning the Future

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Overview

1. Jendrik: MSc theses in MR lab
2. Elliot: Why do a PhD?
3. Elliot: NL2Plan
4. Damien: Constraint Programming for Automated Planning
5. Jendrik: PhD positions in MR lab

AI (Planning) Opportunities at IDA

- talk to professors or researchers early:
  - $\rightarrow$ choose suitable MSc thesis
  - $\rightarrow$ become research assistant
  - $\rightarrow$ join AI academy
  - $\rightarrow$ do a PhD

MSc Theses

Master's theses

Machine Reasoning Lab:

- Thesis ideas: https://mrlab.ai/positions/
- Topics tailored to you
- Own suggestions welcome

PhD Theses

Some Current PhD projects in Machine Reasoning Lab

- Farid: learning how to solve planning domains
- Kristina: bridging the gap between planning and reinforcement learning
- Elliot: natural language to PDDL
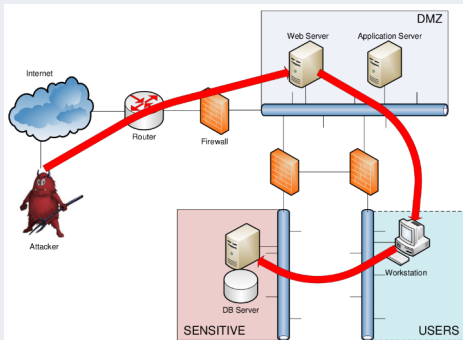- Damien: constraint programming for planning

Open PhD positions at IDA

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https://liu.se/en/work-at-liu/vacancies?city=
Linkoping&institution=IDA+-+Department+of+Computer+
and+Information+Science&occupationarea=PhD+students
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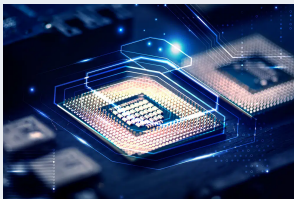# Open PhD positions in Machine Reasoning Lab

AI Planning for Cybersecurity

- Learn domain models for identifying attacks
- Use the found plans to create countermeasures
- More infos: https://mrlab.ai/projects/air2/

Open PhD positions in Machine Reasoning Lab

Parallel AI Planning

- Develop the first parallel AI planning system
- Parallelize the search for plans: linear speedup
- Compute heuristics in parallel: exponential speedup
    - Parallel Merge-and-shrink
    - Compute all SCP orders in parallel
    - Compute distribution of FF heuristic values in parallel
    - …
- More infos: https://mrlab.ai/projects/paip/

Open PhD positions in Machine Reasoning Lab

- Both PhD projects can also be a MSc project
- MSc not needed to start PhD, only 240 points

Next steps if interested

- Read about open projects in MR Lab
- Read about PhD education at IDA
- mailing list about IDA PhD positions $\rightarrow$ send mail to
  https://mrlab.ai/jendrik-seipp/
- Contact us
- Choose MSc thesis