WG 5 Report: This and next year

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Oct 24, 2022

WG5 meeting (co-located with AITP 2022)

- AITP is a yearly meeting where researchers in the areas of artificial intelligence, automated reasoning, machine learning, computer-understandable mathematics and proof assistants come to discuss how to progress with automation of reasoning, mathematics and science.

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- 4 days in September, >50 ppl

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PAMLTP Workshop 2023

- Where: CIIRC, Czech Technical University in Prague
- When: March/April 2023
- Why: Efficient implementation is the key to practical deployment of ML-based techniques, especially in highly tuned systems like theorem provers, yet practical aspects are only rarely discussed. The workshop will provide an opportunity for practitioners in the area to share experiences with libraries, support tools, implementation tricks, and discovered solutions.

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- submission: 1 page abstracts to be approved by a small PC
- on site: semi-formal talks with emphasis on discussions and idea exchange
- possibly: brainstorm on the survey of techniques for learning proof search guidance and premise selection in automated theorem provers (as a first step towards a WP5 deliverable)

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Planned to be organized jointly with DDDP (next slide)

Developing training corpus for Data-Deficient Problems

DDDP Workshop 2023

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- Why: While Inductive Programming (IP) is data efficient, performance drops when searching over combinatorially complex hypothesis spaces. Exploiting Statistical learning methods to improve search requires development of a large corpus of meaningful and relevant learning tasks. IP is one of many domains that can benefit from statistically guided search, but lacks the required training corpus to exploit it. We want to bring together researchers investigating problems with this property to discuss methods of developing and synthesizing data to improve performance on such tasks.

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School on formalizations in (controlled) natural language

SONALF School 2023

- Where: Bonn
- When: September 2023
- School providing an introduction to Naproche
- Possibly develop new Naproche formalizations
- Brainstorm on the survey of natural language techniques for theorem proving (as a first step towards a WP5 deliverable)