

Artificial Intelligence

Conclusion

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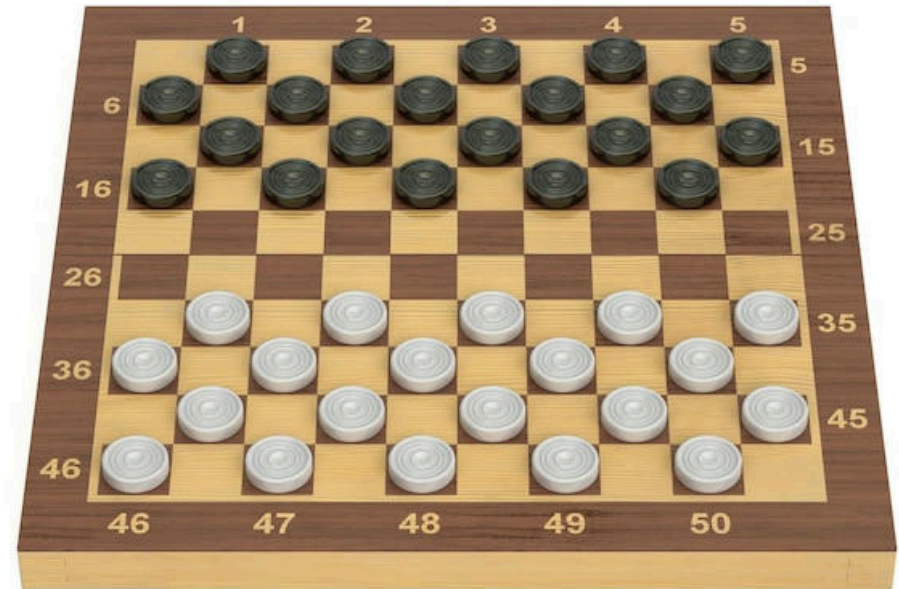
INSA Toulouse – 4IR

Remaining labs

Last 2 labs: Checkers

Not a kids game!

- reasonable branching factor (≈ 8)
- forced moves
- long term strategies



Chess is like looking out over a vast open ocean;
checkers is like looking into a bottomless well.

— Marion Tinsley

Remaining labs

- Lab1: MCTS implementation
 - self evaluation against minimax
 - competitive format? (TBD)
- Lab2: explore, characterize and improve
 - time will be given to explore some suggested improvements, characterize the algorithms, ...

Evaluation criteria:

- algorithmic performance (code)
- self-reflection on algorithms (short oral)
 - first half of May

Exam

- 29 of April
- Format:
 - no documents
 - short and focused questions on the course and labs
 - mix of
 - tick-a-box questions
 - simple computation (max, min, expectations)
 - short natural language answers

Example questions

- In this (displayed game tree),
 - what would be the action selected by minimax?
 - which nodes could be pruned with alpha-beta pruning
- In this example graph, which nodes would be expanded by dijkstra when looking from a shortest path from A to D
- Propose a utility value for the given states that is consistent with the expressed preferences
- What is the expected utility of action a in this situation
- What are the characteristics of the Go board game (checklist “deterministic”, “fully-observable”, ...)
- Given the following problem statement,
 - describe what are the available actions (modeling)
 - give an upper bound on the size of the state space

That's it!