

SigmaZero

Tablut Challenge 2023

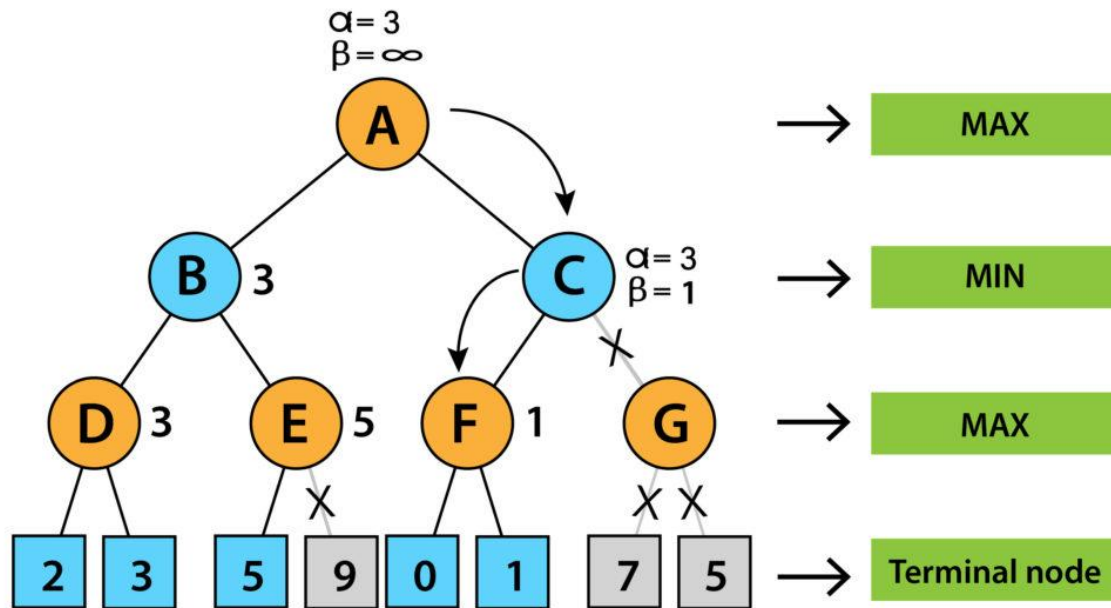
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Strategy

Search space expansion:

- **Minmax** with **alpha-beta** cuts: prunes branches with no additional information
- **Iterative deepening** applied to Minmax: guarantees an answer within the timeout
- **Transposition Table**: avoids the repetition of the evaluation of a game state already evaluated.

*We pre-load 2 million states during the instantiation of the bot.



Heuristic

State evaluation:

- Machine learning approach
- Trained a model on the dataset of previous years' games (given by the teacher)
- Implementation based on *Random Forest* (Weka Java API)
- Model returns a value between 0 and 1

Thanks for your attention

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