

Annotated Bibliography

“Mancala games - Topics in Mathematics and Artificial Intelligence” - Jeroen Donkers, Jos Uiterwijk and Alex de Voogt – 2001

<https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=2745494c6e96cd6b6636e941fa2a6f3dc4605ea0>

Offers interesting background on the mathematics of mancala and its complexity, as well as that of some variants. AI content is more theoretical than anything else, but still offers interesting insight.

“Searching and Game Playing: An Artificial Intelligence Approach to Mancala”
Chris Gifford, James Bley, Dayo Ajayi, and Zach Thompson – 2008

https://itc.ku.edu/publications/documents/Gifford_ITTC-FY2009-TR-03050-03.pdf

A paper with very similar goals as this project, though this paper indicates much more in-depth work. It also confirms my results of first-player advantage.

Minimax and Applications- edited by Ding-Zhu Du, Panos M. Pardalos-1995

<https://books.google.com/books?hl=en&lr=&id=t2cMNx81U4oC&oi=fnd&pg=PR13&dq=minimax&ots=0LhQ-FNBBK&sig=iejJBTfldVoZhHRxDYj0vKWHiMg#v=onepage&q=minimax&f=false>

An in-depth look at Minimax, particularly from a mathematical point of view. Indicates that full Minimax is an NP-hard problem.

“Variants of Mancala” –UltraBoardGames- 2020-

<https://www.ultraboardgames.com/mancala/variations.php>

A short article that contains more specific information about the particular variant of Mancala used in this project.

“Mancala”- Savannah African Art Museum- 2020-

<https://www.savannahafricanartmuseum.org/2020-workshops/05-2>

An article about the history and cultural roots of Mancala. Contains useful background information for this project.

Artificial Intelligence- A Guide for Thinking Humans- Melanie Mitchell- 2019

A great book about the history and applications of Artificial Intelligence. The section on game playing is most relevant to this project.

“A MiniMax Agent for Playing Ntxuva Game – The Mozambican Variant of Mancala” - F. D. M. A. Ali, E. Gimo and S. M. Saide – 2020 -
<https://ieeexplore.ieee.org/abstract/document/9183848/metrics#metrics>

This paper is similar to this project, but using a different variant of Mancala.

“The Exploration and Analysis of Mancala from an AI Perspective” Trevon J Hunter- 2021-
<https://digitalcommons.andrews.edu/cgi/viewcontent.cgi?article=1259&context=honors>

This is an honors thesis very similar to this project. One of their heuristics is especially similar to one used in this project.

“A brief history of heuristics: how did research on heuristics evolve?” –Mohamad Hjejj and Arnis Vilks- 2023 <https://www.nature.com/articles/s41599-023-01542-z>

This article contains some interesting background information about heuristics. More useful in explaining this project in the paper than in writing the code itself.

Introduction to Minimax -V.F.Dem'yanov and V.N.Malozemov- Translation dated 1974, original work 1938 - https://books.google.com/books?hl=en&lr=&id=xRT-AgAAQBAJ&oi=fnd&pg=PP1&dq=minimax&ots=Bz5uljvT67&sig=UL8EeGM_5SIV4igJLf54iyHsT'ZM#v=onepage&q=minimax&f=false

This book contains some fascinating information about Minimax, though its publishing date precludes much discussion of contemporary application.