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[Pygmy sunfish](#) <sup>[2]</sup>

### Sunfish,

a simple [open source chess engine](#) under the [GPL](#) written by [Thomas Dybdahl Ahle](#) in [Python](#) for didactic purposes, inspired by [Harm Geert Muller's Micro-Max](#) <sup>[1]</sup>. Without the code lines of the [piece-square tables](#) and its simple [command line interface](#), it takes up just 111 lines of code.

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## Description

Sunfish applies MTD-bi, the binary search version of [MTD\(f\)](#) <sup>[3]</sup>, also known as [NegaC\\*](#) as proposed by [Jean-Christophe Weill](#) in 1990 <sup>[4]</sup> <sup>[5]</sup>, which is based on [C\\*](#), introduced by [Kevin Coplan](#) in 1981 at [Advances in Computer Chess 3](#) <sup>[6]</sup>. MTD-bi is embedded inside an [iterative deepening](#) framework. Its [fail-soft scout](#) originally lacked the [quiescence search](#), which made it blunder pretty badly in some positions <sup>[7]</sup>, but a version of this was later added <sup>[8]</sup>. The rudimentary [evaluation](#) considers [point values](#) and [piece-square tables](#) - an aggregated [score](#) is [incremental updated](#) during [make move](#).

## Etymology

Sunfish is named after the [Pygmy Sunfish](#), which is among the very few fish to start with the letters 'Py', and refers other famous [fish engines](#) such as [Stockfish](#) and [Rybka](#) <sup>[9]</sup>.

## See also

- [Fish](#)
- [Geography](#)
- [PyChess](#)

## Postings

- [Sunfish – A 111 line Chess Engine in Python](#) by [Thomas Dybdahl Ahle](#), [reddit](#), February 16, 2014
- [SUNFISH - a new chess engine written in Python !](#) by [Ruxy Sylwyka](#), [CCC](#), February 27, 2014
- [New version of Sunfish](#) by [Thomas Dybdahl Ahle](#), [CCC](#), August 20, 2016
- [Sunfish \(Python Engine\)](#) by [Norbert Raimund Leisner](#), [CCC](#), January 02, 2018

## External Links

### Chess Engine

- [thomasahle/sunfish · GitHub](#)

### Misc

- [Sunfish from Wikipedia](#)
- [Sunfish Lake \(Ontario\) from Wikipedia](#)
- [Basking shark from Wikipedia](#)
- [Pygmy sunfish from Wikipedia](#)

## References

1. <sup>^</sup> [Sunfish – A 111 line Chess Engine in Python](#) by [Thomas Dybdahl Ahle](#), [reddit](#), February 16, 2014
2. <sup>^</sup> [Pygmy sunfish \(Elassoma sp.\)](#). [Drawing](#) by [Duane Raver](#) for the [United States Fish and Wildlife Service](#), [Pygmy sunfish from Wikipedia](#)
3. <sup>^</sup> [Aske Plaat](#), [Jonathan Schaeffer](#), [Wim Pijls](#), [Arie de Bruin](#) (1995). *A New Paradigm for Minimax Search*. Technical Report EUR-CS-95-03. [pdf](#)

4. ^ [Jean-Christophe Weill \(1991\)](#). *Experiments With the NegaC\* Search - An Alternative for Othello Endgame Search*. [Heuristic Programming in AI 2](#)
5. ^ [Jean-Christophe Weill \(1992\)](#). *The NegaC\* Search*. [ICCA Journal, Vol. 15, No. 1](#)
6. ^ [Kevin Coplan \(1982\)](#). *A special-purpose machine for an improved search algorithm for deep chess combinations*. [Advances in Computer Chess 3](#)
7. ^ [Re: SUNFISH - a new chess engine written in Python !](#) by [Thomas Dybdahl Ahle](#), [CCC](#), February 28, 2014
8. ^ [Re: SUNFISH - a new chess engine written in Python !](#) by [Thomas Dybdahl Ahle](#), [CCC](#), February 28, 2014
9. ^ [thomasahle/sunfish · GitHub](#)

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