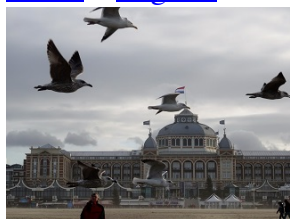


[Home](#) \* [Engines](#) \* **GullChess**



Scheveningen Gulls <sup>[3]</sup>

**GullChess**, (Gull)

an [UCI](#) compliant [open source engine](#) in the [public domain](#) by [Vadim Demichev](#) <sup>[1]</sup>, inspired by ideas and code from other open source engines, notably from [Ivanhoe](#) of the [Ippolit](#) family of programs, and from [Strelka](#), whose authors are suspected of [reverse engineering Rybka](#), to examine and use her ideas. [Ron Murawski's](#) Computer-Chess Wiki mentions GullChess as Ivanhoe derivative <sup>[2]</sup>. The further socialization of concrete implementations with disputed origin in the public domain, as already started with Ippolit, remains a highly controversial topic.

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## Description

GullChess applies [magic bitboards](#) to determine [sliding piece attacks](#), a [material table](#) indexing scheme with disjoint light and dark bishops, [PVS](#) with [aspiration windows](#), and a [parallel search](#) based on [processes](#). Version 1.2 is written in compact and neat [C++](#) code and consists of only one single source file. It features [generic](#) function templates in [recursive](#) search routines as well in various functions called by search, i.e. for [move generation](#), with [side to move](#) and [hash-move](#) exclusion for [singular extensions](#) as boolean template parameters, delegating conditions on these to compile-time.

## Releases & Forks

### Gull 2.1

Gull **2.1**, released in June 2013, has [evaluation](#) weights optimized with the use of [automated tuning](#) (source code included). Gull's 2.1 evaluation is no longer almost identical to that of Ivanhoe. Further, it features some minor search, [time management](#) and [SMP](#) efficiency enhancements <sup>[4]</sup>.

### Gull 2.8 beta

Gull **2.8 beta**, released in January 2014 and competing [TCEC Season 6](#), comes with minor search tweaks but a full evaluation rewrite, being back an original engine <sup>[5]</sup>. A [BMI2](#) build provides a small speedup on [Haswell architecture](#) due to the replacement of [magic bitboards](#) by [PEXT bitboards](#).

### Gull 3

Gull 3, released April 17, 2014, with further [optimization](#) of evaluation weights and a rewritten [SMP search](#), features nonlinear [king shelter evaluation](#) and more [endgame knowledge](#). [Basil Falcinelli](#) implemented a [Linux](#) port <sup>[6]</sup> and [Syzygy Bases](#) support, introducing [Fathom](#) <sup>[7]</sup>, while [Michael Byrne](#) worked on a [Mac OS](#) port <sup>[8]</sup> dubbed **Hawkeye** <sup>[9]</sup>, [Tom Hyer](#) introduced his Gull 3 derivative **Roc** <sup>[10]</sup>, and [Norman Schmidt](#) **SeaGull** also based on Gull 3 <sup>[11]</sup>.

## LazyGull

**LazyGull** is a free UCI chess engine under the [MIT License](#) derived from Gull 3 by [Basil Falcinelli](#) <sup>[12]</sup>. LazyGull features [Syzygy Bases](#) support via [Fathom](#), [Lazy SMP](#), and [PDEP bitboards](#) for modern [x86-64](#) CPUs, and is portable to [Windows](#), [Linux](#) and [MacOSX](#) <sup>[13]</sup>.

## See also

- [Bird](#)

## Forum Posts

### 2010 ...

- [Проект "Чайка"](#) by [ThinkingALot](#), [immortalchess](#), June 07, 2010, [translated](#) by [Google Translate](#)
- [GullChess](#) by [Olivier Deville](#), [Winboard Forum](#), June 09, 2010
- [gull chess](#) by Karger, [OpenChess Forum](#), June 12, 2010
- [Re: gull chess](#) by [ThinkingALot](#), [OpenChess Forum](#), June 13, 2010 » [Gaviota](#)
- [Re: gull chess](#) by [ThinkingALot](#), [OpenChess Forum](#), June 17, 2013 (Gull 2.1)
- [Re: gull chess](#) by [ThinkingALot](#), [OpenChess Forum](#), January 26, 2014 (Gull 2.8 beta & Gull 2.9 alpha)
- [GullChess 2.1](#) by [Norbert Raimund Leisner](#), [CCC](#), June 18, 2013
- [DTS-like SMP](#) by [ThinkingALot](#), [OpenChess Forum](#), July 25, 2013 » [Parallel Search](#)
- [Re: Gull](#) by [ThinkingALot](#), [immortalchess](#), February 10, 2014

### 2015 ...

- [Gull 3 \(Linux port\) released](#) by [Basil Falcinelli](#), [CCC](#), October 28, 2015
- [Gull 3 x64 Mac Results](#) by [Michael B](#), [CCC](#), October 30, 2015
- [Gull 3 Linux+Syzygy and Fathom released](#) by [Basil Falcinelli](#), [CCC](#), November 20, 2015 » [Fathom](#)
- [Gull 3.0.1 available, takes advantage of hyperthreading](#) by [Dmitri Gusev](#), [CCC](#), January 21, 2016
- [Gull 3.0 Syzygy in GitHub](#) by [Jose Mº Velasco](#), [CCC](#), May 19, 2016
- [Gull 3 x64](#) by [Michael B](#), [CCC](#), July 01, 2016
- [Hawkeye 1.01](#) by [Michael B](#), [CCC](#), July 05, 2016

- [Hawkeye 1.01 Released](#) by [Michael B, CCC](#), July 07, 2016
- [Hawkeye is now on Github](#) by [Michael B, CCC](#), July 10, 2016
- [Hawkeye 1.02 Released](#) by [Michael B, CCC](#), July 11, 2016
- [HAWkeye 1.03 Released](#) by [Michael B, CCC](#), July 16, 2016
- [Future of Gull](#) by [Tom Hyer, CCC](#), August 23, 2016 <sup>[14]</sup>
- [New engine "Roc"](#) by [Tom Hyer, CCC](#), January 18, 2017
- [Open-source improvements released](#) by [Norman Schmidt, CCC](#), June 26, 2017

## External Links

## Source Code Repositories

- [SourceForge.net: GullChess - Project Web Hosting - Open Source Software](#) by [ThinkingALot](#)
- [GullChess | Free software downloads at SourceForge.net](#)
- [hyer / SonsOfTheBird / source / Slizzard — Bitbucket](#) by [Tom Hyer](#) <sup>[15]</sup>
- [GitHub - Velmarin/Chess-Gull-Syzygy: Chess uci engine with support Syzygy tablebases](#) by [Jose Mº Velasco](#)
- [GitHub - MichaelB7/Hawkeye: UCI Chess Engine based on Gull](#) by [Michael Byrne](#)
- [GitHub - TomHyer/Roc: C++ chess engine derived from Gull 3](#) by [Tom Hyer](#)
- [GitHub - basil00/Gull: Gull chess \(Linux/Mac port\) - The LazyGull Chess Engine](#) by [Basil Falcinelli](#)
- [GitHub - FireFather/seagull: chess engine based on Gull 3](#) by [Norman Schmidt](#)

## Rating

- [Gull 1.2 64-bit](#) in [CCRL 40/40](#)
- [Gull 3 64-bit 4CPU](#) in [CCRL 40/40](#)

## Misc

- [Gull \(Seagull\) from Wikipedia](#)
- [The Birds \(story\) from Wikipedia](#)
- [The Birds \(film\) from Wikipedia](#)
- [Gull Lake Jazz Orchestra @ The Union, Kalamazoo, Michigan, YouTube](#) Video <sup>[16]</sup>

## References

1. <sup>^</sup> [Chess engine from Wikiepdia](#)
2. <sup>^</sup> [Chess Engine List](#) from [Ron Murawski's Computer-Chess Wiki](#)
3. <sup>^</sup> Gulls at the beach of [Scheveningen Kurhaus](#), Photo by [Gerd Isenberg](#), December 26, 2015
4. <sup>^</sup> [Re: gull chess](#) by [ThinkingALot](#), [OpenChess Forum](#), June 17, 2013 (Gull 2.1)
5. <sup>^</sup> [Gull 2.8 beta.zip/Gull 2.8 beta/readme.txt](#)
6. <sup>^</sup> [Gull 3 \(Linux port\) released](#) by [Basil Falcinelli, CCC](#), October 28, 2015

7. ^ [Gull 3 Linux+Syzygy and Fathom released](#) by [Basil Falcinelli](#), [CCC](#), November 20, 2015
8. ^ [Gull 3 x64 Mac Results](#) by [Michael B](#), [CCC](#), October 30, 2015
9. ^ [Hawkeye 1.01](#) by [Michael B](#), [CCC](#), July 05, 2016
10. ^ [GitHub - TomHyer/Roc: C++ chess engine derived from Gull 3](#)
11. ^ [GitHub - FireFather/seagull: chess engine based on Gull 3](#) by [Norman Schmidt](#)
12. ^ [GitHub - basil00/Gull: Gull chess \(Linux/Mac port\) - The LazyGull Chess Engine](#)
13. ^ [Gull/README.md at master · basil00/Gull · GitHub](#)
14. ^ [hyer / SonsOfTheBird / source / Slizzard — Bitbucket](#)
15. ^ [Future of Gull](#) by [Tom Hyer](#), [CCC](#), August 23, 2016
16. ^ [Gull Lake \(Michigan\) from Wikipedia](#)

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<a href="#">TCEC Season 8</a>	Nov 30, 2015
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<a href="#">Vadim Demichev</a>	Jul 26, 2013

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