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[The Grim Game](#) ^[1]

Houdini,

a chess engine by [Robert Houdart](#), which appeared in 2010 as closed source engine, free for non-commercial use. In January 2011, Houdini 1.5 was leading [Ingo Bauer's IPON rating list](#) ^[1].

Houdini 2, released in September 2011, is commercial and bundled with a number of [ChessOK](#) products, such as [Aquarium](#), [Chess Assistant](#) ^[2], and since December 2011, [Chess King](#) ^[3]. Houdini 1.5a remains available as a free download ^[4]. Houdini 3, released in October 2012, has further improved by more than 50 Elo points ^[5]. According to its author, Houdini 3 applies a accelerated [principal variation search](#), also dubbed "Smart" [Fail-High](#). If a different move becomes [best](#) at very high [search depths](#) at the [root](#), re-searches to determine its [exact score](#) and the new [principal variation](#) are done faster due to a reduced search depth, presumably in conjunction with [extensions](#) along the PV ^[6]. Since November 2012, Houdini 3 is available as [ChessBase](#) engine ^[7]. Houdini 4, released in November 2013, was about 50 Elo stronger than its predecessor, and features 6-men [Syzygy bases](#).

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Houdini 5

Released about three years after the previous version, in November 2016, **Houdini 5** is vastly improved being about 200 Elo stronger than Houdini 4. It has a completely rewritten [evaluation](#) with more aggressive [king safety](#) and sophisticated [piece mobility](#), features a more [selective search](#), exploring critical variations significantly deeper, and for hardware with multiple processors, [Lazy SMP](#). Houdini **5 Pro** supports up to 128 [threads](#), up to 128 GiB of [hash memory](#), [large memory pages](#), [NUMA-architecture](#), and [Nalimov tablebases](#) to find the shortest path to [mate](#).

A development version of Houdini 5 qualified for [TCEC Season 9 Superfinal](#), and even won the [TCEC Season 9 Rapid tournament](#). The final release version of Houdini 5 is about 30 Elo stronger than the engine that played in the TCEC tournament so far. But that was apparently not enough for [Stockfish 8](#) in long time control matches - Houdini 5 lost the 100 game [Superfinal](#) with 45½ - 54½.

Houdini 6

Released in September 2017, Houdini **6** again improved in [search](#) and [evaluation](#) to add another 50-60 Elo in [strength](#), which roughly corresponds to doubling the computational power of the computer ^[9]. **Houdini 6.03** won the [TCEC Season 10 Superfinal](#) versus [Komodo 1970.00](#), a successor of Komodo 11, with **53 - 47** (+15=76-9) ^{[10] [11]}.

Houdini's Origin

Robert Houdart claims his engine is original ^[12], and admits taking ideas from the open source programs [Ippolit/Robbolito](#), [Stockfish](#) and [Crafty](#) ^[13]. Other programmers and forum members raised suspicions that Robert took ideas from the controversial Ippolit/Robbolito source code too literally as initial base of his program ^{[14] [15] [16] [17]}.

Sources of Inspiration

Robert Houdart on the origins of Houdini in [CCC](#), June 08, 2010 ^[18]

From the start I have very clearly acknowledged the different sources of inspiration for Houdini ([Ippo/Robbo](#), [Stockfish](#) and [Crafty](#)) and have shown every respect for the hard work of others, be it on my web site, in the readme file, or in this forum...

Houdini and the Ippo family have lots of high-level similarities, but zillions of low-level subtle differences.

Claims have been made that I "just changed a couple of resource strings", "made a cheap compile" or "grabbed some free code", but, in

truth, none of you have any clue about the effort that was invested in Houdini.

It is funny that I would not be called a "real" chess engine author, when I am both a professional software developer and a reasonably strong chess player (peak 2280 rating), who has been writing chess engines for over 25 years now in a variety of programming languages.

It is sad that on the one hand you request that everybody demonstrates respect for the hard work of others, but on the other hand you seem to be unable to extend the same courtesy (or even the benefit of the doubt) to Houdini.

Material Table

The idea to index the [material table](#) in the same manner as Robbolito, with combined counters of queens, rooks, light and dark bishops, knights and pawns, and to calculate piece counters from that table-index by a sequence of mod/div operations by {2,2,3,3,2,2,2,2,3,3,9,9} might be considered obvious after studying the mentioned source code, and if applying that scheme, there is hardly anything to avoid a sequence of almost identical [x86](#) machine code with same constants for [reciprocal multiplication](#) ^[19].

Strelka 5

Robert Houdart on [Strelka 5](#), December 04, 2011 ^[20]

Strelka 5 is Houdini 1.5 [RE](#), not Houdini 2. I share your fears, any #1 engine will be RE'd in a matter of months. For Houdini 1.5 it's taken about 6 months.

Reply by [Richard Vida](#) ^[21]

You mean 6 months until [Strelka](#) has been released to public. You do not know how much time did [Yuri Osipov](#) spent on RE, neither when he did start his RE project. For me it took barely one week. As [Milos S.](#) pointed out ^[22], you made RE very very easy because of starting your project from [Robbolito](#) codebase... Personally I see no problem with that (other than you not telling the truth).

Release Dates

- Houdini 1.0 : May 15, 2010

- Houdini 1.5 : December 15, 2010
- Houdini 2.0 : September 01, 2011
- Houdini 3 : October 15, 2012
- Houdini 4 : November 25, 2013
- Houdini 5: November 09, 2016
- Houdini 6: September 17, 2017

See also

- [Legend](#)
- [Magic](#)

Publications

Harry Houdini

- [Harry Houdini](#), et al. (1906, 2012). [The Right Way to Do Wrong: An Exposé of Successful Criminals](#). [CreateSpace](#), [amazon.com](#)
- [Harry Houdini](#) (2007). [The Right Way to Do Wrong](#). [Librivox audio recording](#) from the [Internet Archive](#)
- [Harry Houdini](#), [Harry Houdini Collection](#) (1908). [The unmasking of Robert-Houdin](#). New York : Publishers Printing Co. ^[23]
- [Walter Brown Gibson](#), [Morris N. Young](#) (1953). [Houdini on Magic](#). [Dover Publications](#)

Chess Engine

- [Diogo R. Ferreira](#) (2012). *Determining the Strength of Chess Players based on actual Play*. [ICGA Journal](#), Vol. 35, No. 1
- [Arno Nickel](#) (2012). [Die schöne neue Welt der Schachengines](#). [SCHACH](#) 2,3,5,6 2012, [pdf](#) (German) ^[24]
- [Matej Guid](#), [Ivan Bratko](#) (2012). *Detecting Fortresses in Chess*. [Elektrotehniški vestnik](#), Vol. 79, Nos. 1-2, [pdf](#) » [Rybka](#), [Houdini](#)
- [Diogo R. Ferreira](#) (2013). *The Impact of the Search Depth on Chess Playing Strength*. [ICGA Journal](#), Vol. 36, No. 2

Forum Posts

2010 ...

- [Re: Costeff Study 1979](#) by [Robert Houdart](#), [CCC](#), May 16, 2010
- [Houdini - a cheap compile of Ippo/Robo](#) by [Lance Perkins](#), [CCC - Computer Chess Club: Engine Origins](#), May 29, 2010 (requires login)
- [Re: question on draw evaluation](#) by [Robert Houdart](#), [CCC](#), June 07, 2010 » [Draw Evaluation](#)

- [Houdini 1.03 is available](#) by [Robert Houdart](#), [CCC](#), July 15, 2010
- [Re: Mate in 17 revisited](#) by [Robert Houdart](#), [CCC](#), July 16, 2010 » [Zugzwang](#)
- [Houdini 1.03a bug-fix is available](#) by [Robert Houdart](#), [CCC](#), July 17, 2010
- [Houdini 1.03a tests](#) by [Harun Taner](#), [CCC](#), July 18, 2010
- [Why Is Houdini Not Entered In The WCCC??](#) by Sean Evans, [Open Chess Forum](#), August 03, 2010
- [Re: Plain and fancy magic on modern hardware](#) by [Robert Houdart](#), [CCC](#), August 26, 2010 » [Magic Bitboards](#)
- [Gaviota EGTB in Houdini 1.5 + contacting Eugene Nalimov](#) by [Robert Houdart](#), [CCC](#), December 01, 2010
- [Houdini 1.5 is released](#) by [Robert Houdart](#), [CCC](#), December 15, 2010
- [Houdini 1.5 with Large Page support and 8-cores for w32](#) by [Robert Houdart](#), [CCC](#), December 19, 2010
- [Houdini 1.5: one mystery/question](#) by [Jouni Uski](#), [CCC](#), December 21, 2010
- [Houdini and Chessbase GUI engine matches](#) by [Robert Houdart](#), [CCC](#), December 27, 2010

2011

- [Houdini Engine Origins](#) by [Jeremy Bernstein](#), [OpenChess Forum](#), January 18, 2011
- [a Telltale position](#) by [Larry Kaufman](#), [CCC](#), 12 February, 2011
- [Re: Why are the Ippo derivative stronger than Stockfish?](#) by [Richard Vida](#), [CCC](#), 25 February, 2011
- [Re: Hash usage percent display \(in Arena\)](#) by [Robert Houdart](#), [CCC](#), March 24, 2011
- [Re: Houdini, Fire, IvanHoe, \(and Rybka?\) are 'clones'...?](#) by [Jury Osipov](#), [CCC](#), May 12, 2011
- [Some news about Houdini 2.0](#) by [Robert Houdart](#), [CCC](#), July 22, 2011
- [Houdini 2 is released](#) by [Robert Houdart](#), [CCC](#), September 02, 2011
- [Houdini 2 Aquarium released](#) by [Robert Houdart](#), [CCC](#), October 09, 2011
- [Computer Chess Biggest Liar](#) by [kingliveson](#), [OpenChess Forum](#), October 09, 2011
- [how far is too far: houdini for sell?](#) by Joseph, [CCC](#), October 11, 2011
- [Houdini with 1:1 Robbolito-code?](#) by [Dr. Alexander Schmidt](#), [CCC](#), October 12, 2011
- [Re: Houdini with 1:1 Robbolito-code?](#) by [Norman Schmidt](#), [CCC](#), October 12, 2011
- [Strelka 5](#) by [Yuriy Osipov](#) by Slavik Pavloff, [CCC](#), October 15, 2011 » [Strelka](#)
- [New:Houdini 2 Chess Benchmarks are Acceptable!](#) by [Sedat Canbaz](#), [CCC](#), November 26, 2011
- [Re: Any plans for Houdini 3?](#) by [Robert Houdart](#), [CCC](#), December 03, 2011
- [Re: Komodo 4 on long time control](#) by [Richard Vida](#), [CCC](#), December 04, 2011 » [Komodo](#), [Strelka](#)
- [Houdini 2.0c - Mate in 1 bug](#) by [Árpád Ruzs](#), [CCC](#), December 08, 2011

2012

- [Re: Interesting poll](#) by [Rebel](#), [Rybka Forum](#), July 15, 2012
- [Houdini 3 reducing the depth feature](#) by Maurizio Maglio, [CCC](#), October 17, 2012
- [Houdini 3 does not behave the same in 64-bit and 32-bit](#) by [Ernest Bonnem](#), [CCC](#), October 23, 2012

- [houdini3 search and mate scores](#) by [Uri Blass](#), [CCC](#), October 29, 2012 » [Mate Scores](#)
- [Houdini 3 update does behave the same in 64-bit and 32-bit](#) by [Ernest Bonnem](#), [CCC](#), November 01, 2012
- [What is stronger than Houdini 3 for what?](#) by S.Taylor, [CCC](#), November 11, 2012
- [Houdini 3 tests \(8cpu\)](#) by [Harun Taner](#), [CCC](#), November 12, 2012
- [The scaling of Houdini 3 and Komodo 5](#) by [Kai Laskos](#), [CCC](#), November 16, 2012 » [Komodo](#)
- [Houdini 3-Houdini 3: Nutzen der Bedenkzeitverlängerung](#) by Patrick Götz, [CSS-Forum](#), December 07, 2012 (German) » [Diminishing Returns](#)
- [Houdini 3 the same in 64-bit and 32-bit: well, not quite?](#) by [Ernest Bonnem](#), [CCC](#), November 28, 2012

2013

- [10 Lessons to be Learned from todays Top Engines](#) by Josef, [Rybka Forum](#), January 03, 2013 » [Komodo](#), [Stockfish](#)
- [eval scale in Houdini](#) by [Rein Halbersma](#), [CCC](#), January 14, 2013 » [Evaluation](#)
- [Scaling at 2x nodes \(or doubling time control\)](#) by [Kai Laskos](#), [CCC](#), July 23, 2013 » [Doubling TC](#), [Diminishing Returns](#), [Playing Strength](#), [Houdini](#)
- [Houdini 4 has been released](#) by [Robert Houdart](#), [CCC](#), November 25, 2013
- [Houdini, much weaker engines, and Arpad Elo](#) by [Kai Laskos](#), [CCC](#), November 29, 2013 » [Match Statistics](#), [Pawn Advantage](#), [Win Percentage](#), and [ELO](#) ^[25]
- [IPON results for Houdini 4](#) by [Robert Houdart](#), [CCC](#), December 02, 2013 » [IPON](#)
- [Be careful where you buy Houdini 4, or you could get burned](#) by [Tom Likens](#), [CCC](#), December 05, 2013

2014

- [Houdini 3/4?](#) by Jason Coombs, [CCC](#), January 30, 2014
- [Threads factor: Komodo, Houdini, Stockfish and Zappa](#) by [Andreas Strangmüller](#), [CCC](#), May 17, 2014 » [Thread](#), [Komodo](#), [Houdini](#), [Stockfish](#), [Zappa](#)

2015 ...

- [Empirical results with Lazy SMP, YBWC, DTS](#) by [Kai Laskos](#), [CCC](#), April 16, 2015 » [Lazy SMP](#), [YBWC](#), [DTS](#)

2016

- [Houdini 5 in TCEC](#) by John Wentworth, [CCC](#), April 13, 2016 » [TCEC Season 9](#) ^[26]
- [Houdini 5 dev in TCEC](#) by [Jouni Uski](#), [CCC](#), September 08, 2016 » [TCEC Season 9](#)
- [New Houdini](#) by [Dann Corbit](#), [CCC](#), October 05, 2016
- [Houdini 5 has been released](#) by [Robert Houdart](#), [CCC](#), November 09, 2016

- [chessbase houdini is out but...](#) by Stavros Atmatzidis, [CCC](#), December 03, 2016

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- [Houdini 6 has been released](#) by [Robert Houdart](#), [CCC](#), September 18, 2017
- [Scaling from FGRL results with top 3 engines](#) by [Kai Laskos](#), [CCC](#), September 26, 2017 » [FGRL](#), [Komodo](#), [Stockfish](#)

2018

- [Houdini 6 - Initial position until depth 50](#) by [Andreas Strangmüller](#), [CCC](#), April 13, 2018 » [Initial Position](#)

External Links

Chess Engine

- [Houdini Chess Engine](#) | [Facebook](#)
- [Houdini \(chess\) from Wikipedia](#)

Purchase

- [Houdini Chess Engine](#)
- [Houdini 6 Pro ChessBase Shop](#), September 17, 2017
- [Houdini 5 Pro ChessBase Shop](#), December 02, 2016
- [Houdini Aquarium 2017](#), [ChessOK](#), December 01, 2016 » [Aquarium](#)
- [New Software with Houdini 4 and Aquarium 2014 Released!](#), [ChessOK](#), December 06, 2013 » [Aquarium](#)
- [Houdini 4 Standard](#), [ChessBase Shop](#), December 07, 2013
- [Houdini 4 Pro](#), [ChessBase Shop](#), December 07, 2013
- [Houdini 3 Aquarium and ChessOK Aquarium 2012 Released](#), [ChessOK](#), November 22, 2012
- [Houdini 3 Standard multiprocessor version](#), [ChessBase Shop](#), November 16, 2012
- [Houdini 3 Pro mulitprocessor version](#), [ChessBase Shop](#), November 16, 2012
- [Chess King with Houdini 2](#), December 2011
- [Houdini 2 Aquarium products family has been released!](#), [ChessOK](#), October 07, 2011

Interviews

- [Interview of Robert Houdart, the Creator of the Strongest Chess Engine in the world: Houdini \(pdf\)](#), [chess-king.com](#)
- [Houdini 3 – the world's strongest chess engine in the Fritz interface - Interview with Robert Houdart, author of Houdini](#), [ChessBase News](#), October 29, 2012
- [Robert Houdart on Houdini 5 dev in TCEC](#), [Chessdom](#), August 25, 2016 » [TCEC Season 9](#)

- [Interview with Robert Houdart, Mark Lefler and GM Larry Kaufman](#) by [Nelson Hernandez](#), [Chessdom](#), November 23, 2017 » [TCEC Season 10](#)
- [Interview with Robert Houdart, author of the champion engine Houdini](#), [Chessdom](#), December 08, 2017

Reports

- [Houdini elbows past Rybka to win computer chess challenge](#) from [chessblog.com](#) - [Alexandra Kosteniuk's](#) Chess Blog, January 25, 2011
- [Houdini 3: the new king of the block \(part one\)](#) by [Albert Silver](#), [ChessBase News](#), November 13, 2012
- [Houdini 3: Analyzing in the cloud \(part two\)](#) by [Albert Silver](#), [ChessBase News](#), November 17, 2012
- [Houdini 4: the 800-pound gorilla](#), [ChessBase News](#), December 07, 2013
- [One chess champion per laptop](#) by [Roberto Perez-Franco](#), [MIT's The Tech](#), January 15, 2014 » [TCEC Season 5](#)
- [Houdini 5 to participate in TCEC Season 9](#), [Chessdom](#), April 13, 2016 » [TCEC Season 9](#)
- [Houdini 5's Tactical Mode: Releasing the Kraken](#), [ChessBase News](#), December 08, 2016
- [Fair play in engine chess](#), [ChessBase News](#), December 30, 2016 » [Houdini 5](#), [Komodo 10](#)
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References

1. [^ IPON-Rating-List Archive 2009/2010/2011](#) by [Ingo Bauer](#)
2. [^ Houdini 2 Aquarium products family has been released!](#), [ChessOK](#), October 07, 2011
3. [^ Chess King Released](#), [ChessOK](#), December 14, 2011
4. [^ Re: Houdini 2 is released](#) by [Robert Houdart](#), [CCC](#), September 02, 2011
5. [^ IPON-Rating-List, 2012.10.17](#) by [Ingo Bauer](#)
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7. [^ Houdini 3 Standard multiprocessor version](#), [ChessBase Shop](#)

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13. [^ Houdini Chess Engine - Acknowledgements](#)
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17. [^ Re: Interesting poll](#) by [Rebel](#), [Rybka Forum](#), July 15, 2012
18. [^ Re: Purpose of Chess Engine Origins forum is...?](#) by [Robert Houdart](#), [CCC](#) (Computer Chess Club: Engine Origins, requires registration), June 08, 2010 in a reply to [Jeremy Bernstein](#)
19. [^ Houdini - a cheap compile of Ippo/Robo](#) by [Lance Perkins](#), [CCC - Computer Chess Club: Engine Origins](#), May 29, 2010 (requires login)
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21. [^ Re: Komodo 4 on long time control](#) by [Richard Vida](#), [CCC](#), December 04, 2011
22. [^ Re: Lazy eval - test results](#) by [Milos Stanisavljevic](#), [CCC](#), December 01, 2011
23. [^ Jean Eugène Robert-Houdin - Wikipedia](#)
24. [^ Part 1 covers](#) [Houdini](#), [Rybka](#), [Komodo](#), [Stockfish](#), [Critter](#), [Naum](#), [Chiron](#) and [Spike](#)
25. [^ Arpad Elo - Wikipedia](#)
26. [^ Houdini 5 to participate in TCEC Season 9](#), [Chessdom](#), April 13, 2016

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