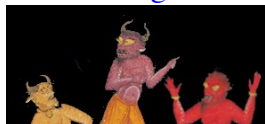


[Home](#) \* [Engines](#) \* [Djinn](#)



Ali and the Jinn <sup>[4]</sup>

**Djinn**,  
a [Chess Engine Communication Protocol](#) compliant chess engine written by [Tom Licens](#) in [C++](#) with some [inline assembly](#), first released in December 2003 <sup>[1]</sup>. Djinn utilizes [bitboards](#) to represent its [chess board](#) and [pieces](#). As relatively slow searcher, Djinn spends most of its time in the [evaluation](#) <sup>[2]</sup>. Executables are available to run under [Windows](#) and [Linux](#), [Đorđe Vidanović](#) has provided Djinn's [Opening Book](#) <sup>[3]</sup>. So far, Djinn played the [CCT6](#) and [CCT8](#).

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## Techniques and Algorithms

Djinn uses most of the following techniques and [algorithms](#) in one form or another <sup>[5]</sup>:

- [Time Management](#)
- [Minimax Search](#)
  - [Negamax](#) Searching
- [Alpha-beta](#)
  - [Negascout](#)
  - [PVS](#)
- [Iterative Deepening](#)
  - [Aspiration Search](#)
- [Null Move Pruning](#)
  - [Zugzwang](#)
  - [Verified Null-move Search](#)
  - [Adaptive Null-move Search](#)
- [Quiescence Search](#)
  - [Checks in Quiescence Search](#)
- [Internal Iterative Deepening](#)
- [Collecting the Principal Variation](#)
- [Extensions](#)
  - [Check Extensions](#)
  - [Mate Threat Extensions](#)
  - [Passed Pawn Extensions](#)
  - [Recapture Extensions](#)
  - [Singular Extensions](#)
- [Reductions/Pruning](#)
- [Repetition Check](#)
- [Bitboards](#)
  - [FirstOne](#)
  - [Population \(or Bit\) Counting](#)
  - [Inline Assembly](#)
- [Rotated Bitboards](#)
- [Magic Bitboards](#)
- [Move Generation](#)
  - [MVV/LVA](#)
  - [Static-Exchange Evaluation \(SEE\)](#)
  - [Perft](#)
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- [Move ordering](#)
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  - [Hash move](#)
  - [Killer moves](#)
  - [Killer mate moves](#)
  - [History Heuristic](#)
- [Evaluation](#)
  - [Piece-Square Tables](#)

- [Opening](#)
  - [Development](#)
  - [Castling](#)
  - [Control of the Center](#)
- [Middlegame](#)
  - [Two-Bishops Bonus](#)
  - [Rooks on the 7th Rank](#)
- [Endgame](#)
  - [Opposite-colored bishops](#)
  - [Passed Pawn](#)
  - [Rule-of-the-Square](#)
  - [Bahr's Rule](#)
- [King Safety](#)
  - [Defects](#)
  - [Enemy Piece Tropism](#)
  - [Delayed Castling](#)
  - [Control of the Squares Around the King](#)
- [Interior-Node Recognizers](#)
- [Bitbases](#)
- [Hash Tables](#)
  - [Zobrist Keys](#)
  - Adjusting [Mate Scores](#) and [Bounds](#)
  - [Pawn Hash Tables](#)
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- [Internal Iterative Deepening](#)
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- [Learning](#)
  - [Opening Book Modification](#)
  - [Position Learning](#)
- [Endgame Tablebases](#)
  - [Nalimov format](#)
- [XBoard/WinBoard](#)

## Selected Games

[CCT6](#), round 7, [Hossa](#) - [Djinn](#) <sup>[6]</sup>

```
[Event "CCT6"]
[Site "Internet Chess Club"]
[Date "2004.02.01"]
[Round "7"]
[White "Hossa"]
[Black "Djinn"]
[Result "0-1"]
```

1.e3 e5 2.d4 exd4 3.exd4 d5 4.Nf3 c6 5.Bd3 Qe7+ 6.Be3 Qb4+ 7.Nfd2 Nf6  
8.O-O Be7  
9.c3 Qd6 10.Re1 Ng4 11.Nf3 Nxe3 12.Rxe3 O-O  
13.Nbd2 g6 14.c4 Be6 15.c5 Qc7 16.Ne5  
Nd7 17.Nxd7 Qxd7 18.Qc2 b6 19.b4 bxc5 20.bxc5 Bg5 21.Ree1 Bf4 22.Rab1  
Rfe8 23.Nf3  
Bg4 24.Ne5 Bxe5 25.dxe5 Rab8 26.Rxb8 Rxb8 27.a3 Bf5 28.f4 Rb5 29.Rc1 B  
xd3 30.Qxd3  
h5 31.Qd2 Qf5 32.a4 Rb1 33.a5 Rxc1+ 34.Qxc1 Qe4 35.g3 Qb4 36.a6 Kf8 37  
.Kf2 Qd4+  
38.Kg2 Qe4+ 39.Kf2 Qd3 40.e6 Qd4+ 41.Kg2 Qb4 42.exf7 Kxf7 43.Kf2 Qa5 4  
4.Qc2 Qxa6  
45.f5 Qa1 46.fxg6+ Kg7 47.Qe2 Qd4+ 48.Kf1 Qc4 49.Qxc4 dxc4 50.Ke2 Kxg6  
51.h3 Kf5  
52.Ke3 Ke5 53.Kd2 Kd4 54.Kc1 c3 55.Kc2 Kc4 56.Kd1 Kd3 57.Ke1 c2 58.Kf2  
c1=Q 59.g4  
Qf4+ 60.Kg2 Ke3 61.g5 Qxg5+ 62.Kf1 Qg3 63.h4 Qf2# 0-1

## See also

- [Genie](#)
- [Ifrit](#)
- [Metaphysics](#)
- [Mythology](#)

## Publications

- [Tom Likens](#) (2003). *Djinn User Guide*. [pdf](#)

## Forum Posts

- [Djinn 0.815 Available](#) by [Tom Likens](#), [Winboard Forum](#), December 25, 2003
- [Re: Can any program find this thematic move? \(Djinn 0.781\)](#) by [Tom Likens](#), [CCC](#), May 08, 2004
- [Djinn 0.967 is now available for download](#) by [Tom Likens](#), [CCC](#), October 15, 2012
- [Djinn 0.969 Released \(64-bit + 32-bit\)](#) by [Tom Likens](#), [CCC](#), October 20, 2012
- [New Djinn 0.971 \(time management fix\)](#) by [Tom Likens](#), [CCC](#), November 10, 2012
- [Djinn 0.979 Available \(Win x64, 32 and Linux x64\)](#) by [Tom Likens](#), [CCC](#), January 30, 2013
- [Djinn 1.006](#) by [Tom Likens](#), [CCC](#), December 24, 2013
- [Djinn 1.021](#) by [Tom Likens](#), [CCC](#), April 12, 2014

## External Links

## Chess Engine

- [Djinn](#) by [Tom Likens](#)  
[Computer Chess Programming Topics](#)
- [Djinn 0.925x](#) in [KCEC](#)
- [Djinn](#) in [CCRL 40/4](#)
- [Djinn](#) in [CCRL 40/40](#)

## Djinn

- [Djinn from Wikipedia](#)
- [Djinn \(disambiguation\) from Wikipedia](#)
- [Jinn \(disambiguation\) from Wikipedia](#)

## References

1. <sup>^</sup> [Djinn](#) from [WBEC Ridderkerk](#)
2. <sup>^</sup> [Djinn - Overview](#)
3. <sup>^</sup> [Djinn - Downloads](#)
4. <sup>^</sup> Ahsan-ol-Kobar, Ali and the Jinn (cropped) 1568, [Golestan Palace](#), [Iran](#), [Dschinn Wikipedia.de](#) (German)
5. <sup>^</sup> [Computer Chess Programming Topics](#) by [Tom Likens](#)
6. <sup>^</sup> [CCT6 - PGN download](#) hosted by [Volker Richey](#)

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<a href="#">CCT15</a>	Oct 21, 2014
<a href="#">CCT16</a>	May 13, 2014
<a href="#">CCT6</a>	May 29, 2014
<a href="#">CCT8</a>	Apr 6, 2013
<a href="#">Djinn</a>	Feb 8, 2016
<a href="#">Engine releases</a>	Apr 23, 2018
<a href="#">Engines</a>	Mar 10, 2018
<a href="#">Genie</a>	Feb 7, 2016
<a href="#">Ifrit</a>	Feb 7, 2016
<a href="#">Tom Likens</a>	Mar 7, 2017

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