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Alexs,

a chess program by [Alex van Tiggelen](#), apparently an application of ALEXS (Automatically Learning EXpert System), a [neural network](#) approach with a learning efficiency beyond of [genetic learning](#), as elaborated and demonstrated by Van Tiggelen and [Van den Herik](#) at [Advances in Computer Chess 6](#) in the domain of specific [endgames](#), in particular the endgame of two knights versus h-pawn ^[1], and by Van Tiggelen casted to the [middlegame](#) ^[2].

Alexs played the [DOCCC 1996](#) and the [DOCCC 1998](#), according to [Vincent Diepeveen](#) ^[3] ^[4] it was based on the Dutch [Nightmare](#) by [Joost Buijs](#), with an [automatically tuned evaluation](#) in 1996, but manually tuned parameters in 1998. A time-served version of Alexs was commercially available through [Gambit-Soft](#) from 1999 ^[5].

Selected Games

Bionic Impakt

[DOCCC 1998](#), round 3, [Alexs](#) - [Bionic Impakt](#) ^[6]

[Event "DOCCC 1998"]

[Site "Leiden NED"]
[Date "1998.11.21"]
[Round "03"]
[White "Alexs"]
[Black "Bionic Impakt"]
[Result "1-0"]

1.d4 Nf6 2.c4 g6 3.Nc3 d5 4.Bf4 Bg7 5.e3 c6 6.Nf3 Qa5 7.Be2 Ne4 8.O-O Nxc3
9.bxc3 O-O 10.Qb3 Nd7 11.cxd5 cxd5 12.Rfc1 Nf6 13.c4 Qd8 14.cxd5 Nxd5 15.Be5
Bxe5 16.Nxe5 Nb6 17.Bf3 Be6 18.Qb5 a6 19.Qb2 Rb8 20.Rab1 Nd5 21.Rc5 f6
22.Nd3
g5 23.Rc2 Bf5 24.Qb3 Bxd3 25.Bxd5+ Kg7 26.Qxd3 Qxd5 27.Rc7 Qxa2 28.Rxe7+ Rf7
29.Rxf7+ Qxf7 30.d5 b5 31.d6 Qd7 32.Ra1 Rb6 33.Rd1 a5 34.Qd4 Rc6 35.e4 Rc4
36.Qe3 h6 37.e5 fxe5 38.Qxe5+ Kg6 39.Re1 Rf4 40.Qd5 Rf6 41.Re7 Qxd6 42.Qe4+
Kh5 43.Qe2+ Kg6 44.g4 Rxf2 45.Kxf2 Qxh2+ 46.Kf3 Qh1+ 47.Ke3 Qd5 48.Qd3+
+ Qxd3+
49.Kxd3 Kf6 1-0

CilkChess

[DOCCC 1998](#), round 4, [CilkChess](#) - [Alexs](#)

[Event "DOCCC 1998"]
[Site "Leiden NED"]
[Date "1998.11.22"]
[Round "04"]
[White "Cilkchess"]
[Black "Alexs"]
[Result "1-0"]

1.Nf3 Nf6 2.c4 c5 3.Nc3 g6 4.e4 d6 5.d4 cxd4 6.Nxd4 Bg7 7.Be2 O-O 8.Be3 Nc6
9.O-O Bd7 10.Rc1 Nxd4 11.Bxd4 Bc6 12.Qd3 a5 13.f4 Nd7 14.Bxg7 Kxg7 15.Qd4+ f6
16.Bg4 Nc5 17.e5 Qb6 18.exf6+ Rxf6 19.Nd5 Bxd5 20.cxd5 Raf8 21.Kh1 Qd8
22.f5
Kg8 23.Rf3 h5 24.Bh3 Qe8 25.Re1 Qf7 26.Rfe3 Re8 27.Rg3 b6 28.Qd1 Kf8 29.fxg6
Rxc6 30.Be6 Nxe6 31.dxe6 Rxe6 32.Rxe6 Qxe6 33.h3 Rd8 34.Qf1+ Ke8 35.Qb5+ Rd7

36.Qxh5+ Kd8 37.Qh8+ Kc7 38.Rc3+ Kb7 39.Qc8+ Ka7 40.Rc7+ Rxc7 41.Qxe6 Ka6
42.h4 Rc2 43.h5 Rxb2 44.h6 Rb4 45.Qe2+ 1-0

See also

- [Chess Engines with Neural Networks](#)
- [Learning Chess Programs](#)

Forum Posts

- [Review of ALEXS by Larry Kaufman](#) by [Đorđe Vidanović](#), [CCC](#), February 12, 1999
- [Alexs 1.0](#) by Marc van Hal, [CCC](#), November 15, 2000
- [Re: Chess program with Artificial Neural Networks \(ANN\)?](#) by [Vincent Diepeveen](#), [CCC](#), January 11, 2010

External Links

- [Inhoud Computerschaak](#) (Augustus 1998, Februari 1999, Dutch)

References

1. [^](#) [Alex van Tiggelen](#) and [Jaap van den Herik](#) (1991). *ALEXS: An Optimization Approach for the Endgame KNNKP(h)*. [Advances in Computer Chess 6](#)
2. [^](#) [Alex van Tiggelen](#) (1991). *Neural Networks as a Guide to Optimization - The Chess Middle Game Explored*. [ICCA Journal](#), Vol. 14, No. 3
3. [^](#) [Re: Review of ALEXS by Larry Kaufman](#) by [Vincent Diepeveen](#), [CCC](#), February 17, 1999
4. [^](#) [Re: Chess program with Artificial Neural Networks \(ANN\)?](#) by [Vincent Diepeveen](#), [CCC](#), January 11, 2010
5. [^](#) [Review of ALEXS by Larry Kaufman](#) by [Đorđe Vidanović](#), [CCC](#), February 12, 1999
6. [^](#) [Downloads | Open Dutch Computer Chess Championships | Games](#)

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Đorđe Vidanović	Feb 20, 2017

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