

[Home](#) * [Engines](#) * FUSc#



FUSc# Logo

FUSc#,
an experimental research [open source chess engine](#) developed since 2002 by the AI-Game Programming Group ^[1] at the [Free University of Berlin](#), headed by [Raúl Rojas](#). As the name suggests, FUSc# was written in [C#](#). It is compliant to the [UCI](#) protocol and able to play online ^[2]. An [iterative alpha-beta](#) matrix version gave a promising performance boost, bought by a huge degree of code complexity ^[3].

Table of Contents

[TD-Leaf\(\$\lambda\$ \)](#)

[Board Representation](#)

[See also](#)

[Publications](#)

[External Links](#)

[References](#)

[What links here?](#)

TD-Leaf(λ)

The engine, then dubbed **DarkFUSc#**, was subject of research on [Temporal Difference Learning](#) using TD-Leaf(λ), as elaborated in [Marco Block's](#) thesis ^[4].

Board Representation

While FUSc# originally had an [array-representation](#), a version dubbed **Fusch#** gained some performance using [rotated bitboards](#) ^[5].

See also

- [Acronym](#)
- [KnightCap](#)
- [Rotated Bitboards](#)
- [Temporal Difference Learning](#)

Publications

- [Marco Block](#) (2004). *Verwendung von Temporale-Differenz-Methoden im Schachmotor FUSc#*. Diplomarbeit, Betreuer: [Raúl Rojas](#), [Free University of Berlin](#), [pdf](#) (German)
- [Marco Block](#), André Rauschenbach, [Johannes Buchner](#), Frank Jeschke, [Raúl Rojas](#) (2005). *Das Schachprojekt FUSc#*. Technical Report B-05-21, [pdf](#), [Free University of Berlin](#) (German)
- [Johannes Buchner](#) (2005). *Rotated bitboards in FUSc#*. [Free University of Berlin](#), [pdf](#)
- [Johannes Buchner](#) (2005). *Theory and practical strategies for efficient alpha-beta-searches in computer chess*. Bachelor thesis, Advisor: [Raúl Rojas](#), [Free University of Berlin](#), [pdf](#)

External Links

- [FUSc# - AG Schachprogrammierung](#)

References

1. [^] [AI-Game Programming Group of Free University of Berlin](#)
2. [^] [FUSc# - AG Schachprogrammierung](#)
3. [^] [Marco Block](#), André Rauschenbach, [Johannes Buchner](#), Frank Jeschke, [Raúl Rojas](#) (2005). *Das Schachprojekt FUSc#*. Technical Report B-05-21, [pdf](#), [Free University of Berlin](#) (German)
4. [^] [Marco Block](#) (2004). *Verwendung von Temporale-Differenz-Methoden im Schachmotor FUSc#*. Diplomarbeit, Betreuer: [Prof. Dr. Raúl Rojas](#), [Free University of Berlin](#), [pdf](#) (German)
5. [^] [Johannes Buchner](#) (2005). *Rotated bitboards in FUSc#*. [Free University of Berlin](#), [pdf](#)

What links here?

Page

[Automated Tuning](#)

[Engines](#)

[Free University of Berlin](#)

Date Edited

Feb 27, 2018

Mar 10, 2018

Jan 20, 2018

Page	Date Edited
FUSCsharp	Jun 7, 2013
Johannes Buchner	May 26, 2013
Marco Block-Berlitz	May 26, 2013
Rotated Bitboards	Mar 7, 2017
Temporal Difference Learning	Feb 20, 2018

[Up one Level](#)