Chess AI improvement through an evolutionary approach

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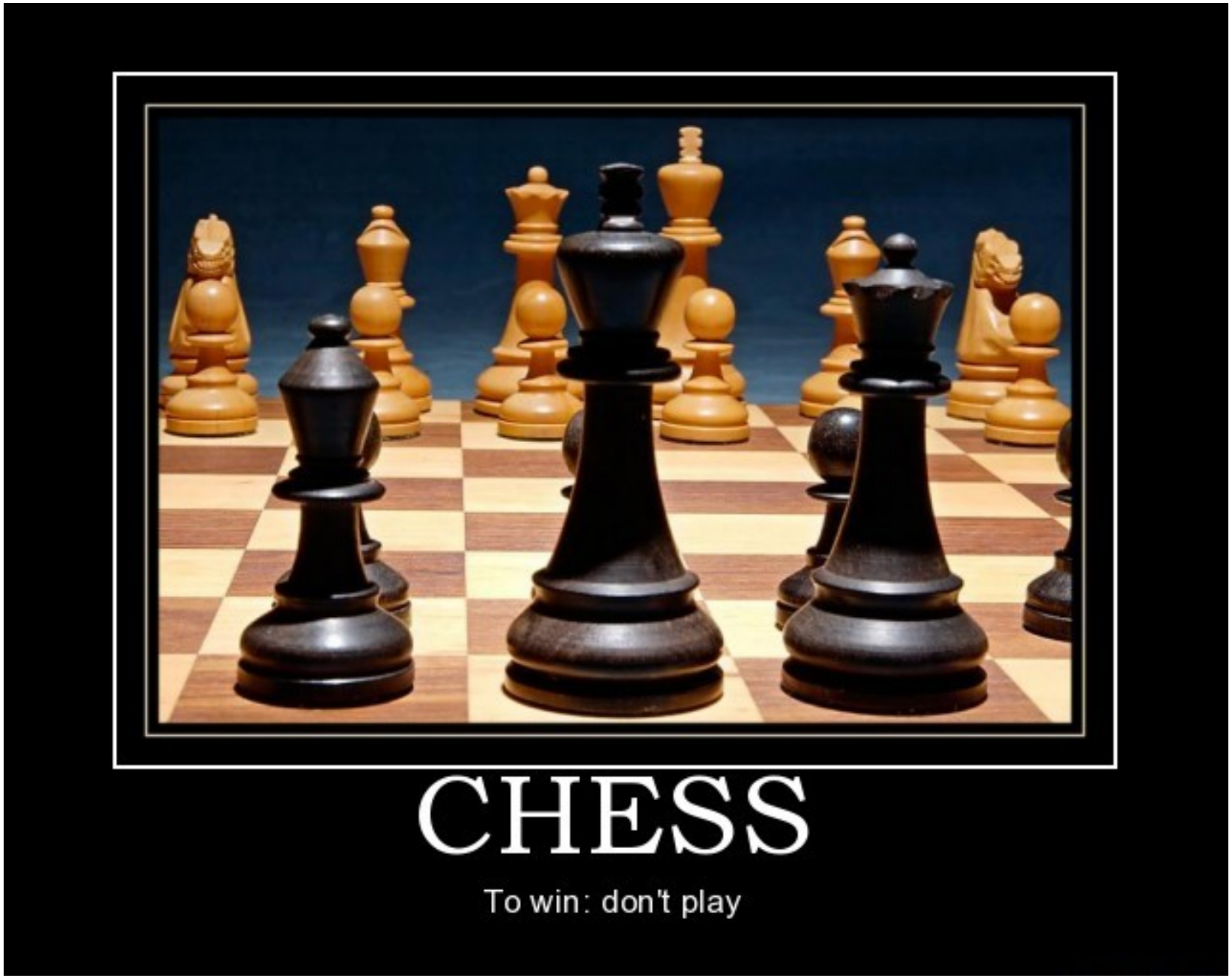
CPSC 565

April 9, 2013

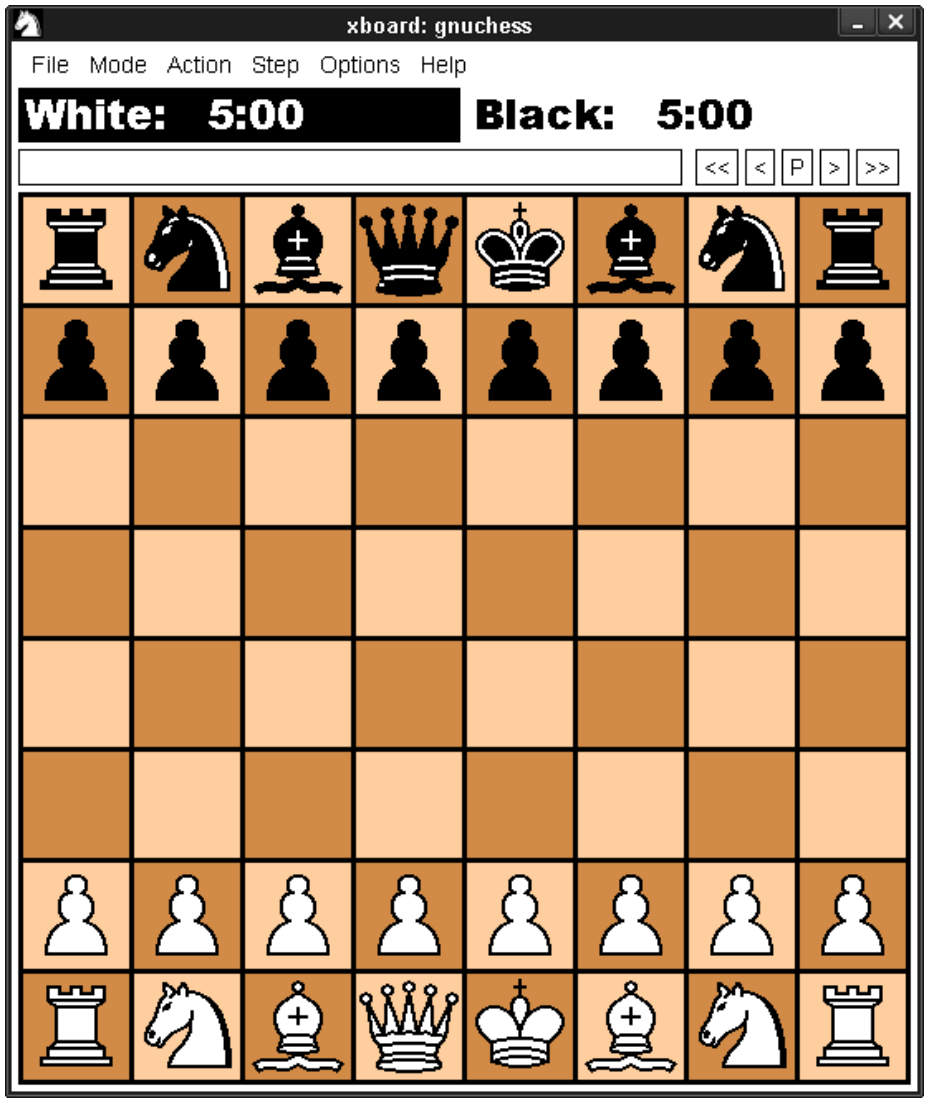

CHESS
To win: don't play

1. Introduction
   - ???????
2. Implementation / Strategy
   - Tools
   - Architecture
   - Board evaluation / parameters evaluation
     - Rating system
   - •
3. Results
   - Set-up
   - Original AI against me
   - Evoluted AI against me
   - Original AI against evoluted AI
4. Future work

Tom Kerrigan's Simple Chess Program (TSCP)

- Chess engine used for playing all the games
- Written in 1997
- Negamax algorithm for the AI

GUI: GNU Xboard



Architecture

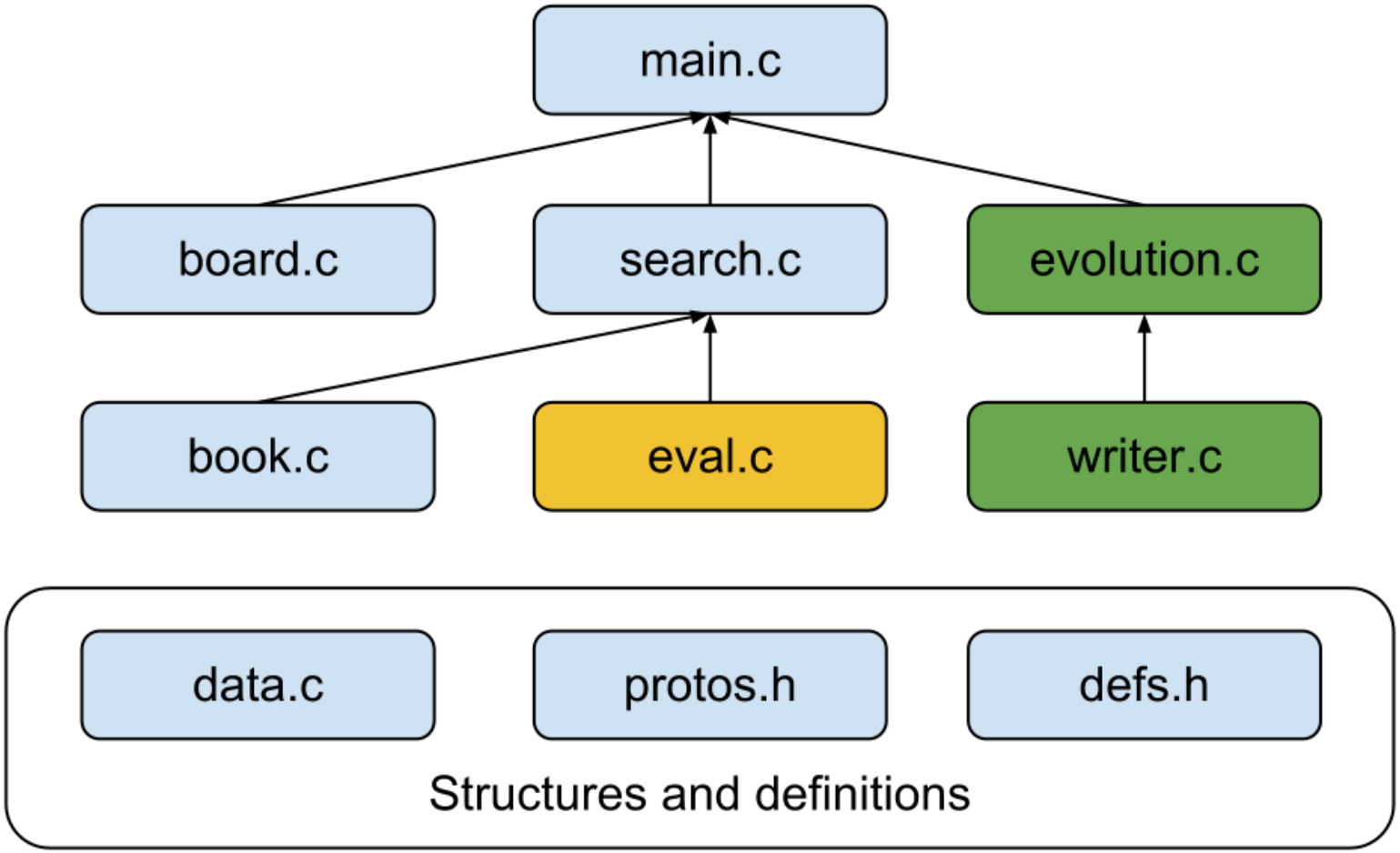


Figure: TSCP and evolution algorithm plugin architecture

Set-up

- Search depth: n = 1
- One day and a half running on a standard laptop
- Optimized parameters: pawn, knight, bishop, rook and queen values
- Evolution strategy parameters: $\mu = \frac{1}{2}\lambda = 4$
- Static strategy parameters: RAND(-15, 15)

Future work

References

Questions

Any questions or suggestions?