

The 24th World Computer
Shogi Championship
Position Paper
by @mechajyo

keywords: Shogi, Japanese Chess, #Julialang

第24回世界コンピュータ将棋選手権
メカ女子将棋 アピール文書
メカ女子将棋部

Summary

- Introduce of Ourselves
- Shogi Playing Program: Mechajyo
- Why we choose #Julialang?
- About Next Generation Mechajyo
(NextGen Mechajyo)

Let us introduce ourselves!

- Mecha Lady Shogi Team(メカ女子将棋部)
 - 2 Lady Shogi Professionals!
 - Takebe-san(3-dan), Watanabe-san(1-dan)
 - 2 Super Ladies!
 - including PR, craftworker(!)
 - 1 old geek :(
(He thinks he is 12 years old cute girl LoL)

Mascot girl “Mechajyo-chan”



- Available at Japan shogi Association, Rakuten Store!

The Shogi Playing Program: @mechajyo

- The first Julia Language (hash tag: #Julialang) based Shogi Playing Program!
- Actual her name is “Mecha Lady Shogi (メカ女子将棋)”
(Jyoshi(女子) = girls, ladies in Japanese, Shogi(将棋) = Japanese Chess)
- Unfortunately, she can not beat us……orz
(may be her level is on13 Kyu(13級))
- “Fancy” shogi playing style! :)
- Using various Computer Chess based techniques:
bit board, null move pruning, etc.
- Also using the Bonanza Shogi Program’s feature values
(aka. fv.bin: 186.3MB data blob!)

Why we choose #Julialang?

- We choose Modern Compilers techniques!
 - Script Language like coding style
 - Type Inference
 - JIT(Just In Time Compilation): fast native code execution based on LLVM infrastructure

The benchmark of #Julialang

	Fortran	Julia	Python	R	Matlab	Octave	Mathe- matica	JavaScript	Go
	gcc 4.8.1	0.2	2.7.3	3.0.2	R2012a	3.6.4	8.0	V8 3.7.12.22	go1
fib	0.26	0.91	30.37	411.36	1992.00	3211.81	64.46	2.18	1.03
parse_int	5.03	1.60	13.95	59.40	1463.16	7109.85	29.54	2.43	4.79
quicksort	1.11	1.14	31.98	524.29	101.84	1132.04	35.74	3.51	1.25
mandel	0.86	0.85	14.19	106.97	64.58	316.95	6.07	3.49	2.36
pi_sum	0.80	1.00	16.33	15.42	1.29	237.41	1.32	0.84	1.41
rand_mat_stat	0.64	1.66	13.52	10.84	6.61	14.98	4.52	3.28	8.12
rand_mat_mul	0.96	1.01	3.41	3.98	1.10	3.41	1.16	14.60	8.51

Figure: benchmark times relative to C (smaller is better, C performance = 1.0).

- C Language(gcc) = 1.0, smaller is better!
- For more information, check <http://julialang.org/>

The voices from
#Julialang developers :)



John Myles White

@johnmyleswhite



フォロー中

The work [@kimrin](#) and colleagues have done to build a Shogi-playing program in [#julialang](#) is really cool:
slideshare.net/kimrinjp/mecha...

🌐 翻訳を表示

🔄 返信 🔄 リツイートを取り消し ★ お気に入り ... その他

SlideShare



Share

#JULIALANG AND SHOGI(JAPANESE CHESS)

twitter: @kimrin
Takeshi KIMURA

slideshare



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Viral B. Shah

@Viral_B_Shah



フォロー中

This talk reports [#julialang](#) being used in a Japanese chess tournament.
speakerdeck.com/sorami/introdu... Pretty cool!

🌐 翻訳を表示

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Introducing Julia

... and couple other languages. Julia is a fast dynamic language for technical computing. <http://julialang.org/> Original presentation at Computational Linguistics Lab, Nara Institute of Science and...

[View on web](#)

リツイート お気に入り
3 3



7:01 - 2013年11月17日

画像/動画を報告する

For WCSC24:

- Now we are rapidly developing Next Generation @mechajyo.....but it's hard to serve WCSC24 (may be hard:()
- We prepare same program attended to WCSC23 as a option

1st Generation @mechajyo

- Using bit board techniques excepts sliding pieces
(calculation of sliding pieces attacks are done by mailbox algorithms)
- Using Bonanza's fv.bin
(but our implementations of retrieving FVs have serious bugs:()
- Modern alpha-beta search approach
(Also have some critical bugs in search routines (T_T))

Next Generation @mechajyo (Codename: NextGen Mechajyo)

- A. About to port Stockfish
(C++ based Chess Program) to #Julialang
“Mechajyo Chess”
- B. Will be hack “Mechajyo Chess” into
“Mechajyo Shogi” (in #Julialang)
- C. But progress of the project is about 20% in
today(=March 27th, 2014)

NextGen @mechajyo

will have:

- magic bit board techniques (incl. sliding pieces)
- accurate fv.bin based evaluation functions
- fast NPS(Nodes/Second) search routines

Source code

- Available at GitHub!
- #Julialang version of WCSC23 program is under the MIT License.
<https://github.com/kimrin/WCSC23>
- NextGen Mechajyo is available at GitHub under the GPLv3 License.
(respect to Stockfish's License)
<https://github.com/kimrin/NextGenMechajyo>
(under the development: can not play Shogi yet.)

Thank you for your attention!

Questions?
feel free to ask me!
twitter: @kimrin

