

# Shashchess at WCCC 50 in Santiago

ShashChess, an open-source chess engine derived from Stockfish, has been expertly crafted by its lead designer, Andrea Manzo. This year marked our first invitation to participate in the ICGA World Computer Chess Championship (WCCC), and in this report, we share our experiences, along with a notable game in which ShashChess claimed victory.

The event in Santiago provided invaluable networking opportunities with computer chess scholars and enthusiasts—individuals whose names we’ve recognized for decades from research, books, and tournament records. This level of interaction simply wouldn’t have been possible in an online event.

Prior to the tournament, we anticipated a high draw rate. Most computer chess games, particularly with neural networks and carefully curated opening books from traditional starting positions, tend to end in draws—even when engines with varied nominal strengths are run on diverse hardware. This issue was underscored in the final rounds of the previous WCCC, where the organizers opted to skip tie-breakers, resulting in a three-way tie for first place due to the likelihood of additional draws. To address this, we propose adding a thematic tournament at future WCCC events, beginning from unbalanced, sharp positions. Such positions, chosen using Win-Draw-Loss (WDL) models, would target win probabilities of approximately 75% or 25%. We are preparing a paper to further develop this proposal.

Interestingly, source control was not enforced, and ShashChess was the only engine with openly accessible code. We also had to respond to scrutiny regarding ShashChess’s origins as a Stockfish derivative, providing evidence that our engine diverges significantly in both code and move selection from Stockfish in equivalent positions.

Finally, we encountered infrastructure challenges. Our plan had been to use a cloud-based, websocket-driven architecture, but we were ultimately limited to a hexacore setup. Despite forfeits and a couple of time losses, ShashChess held its ground, even against rivals with access to much stronger hardware configurations, as follows.

<i>Engine Name</i>	<i>Processor</i>	<i>RAM</i>
<b>Shashchess</b>	<b>Backup machine: Intel i7-8750H (6 cores) Originally intended: AWS 192-446 cores</b>	<b>Backup Machine: 16GB</b>
<b>GridChess using Fritz</b>	<b>5 cluster nodes AMD Zen4 9554 Dual Socket (5x128 cores) 1 cluster node AMD Zen4 9554 Single Socket (64 cores) total 704 cores</b>	
<b>Tech 4</b>	<b>AMD 7940hs nVidia 4080</b>	<b>32GB</b>

<b>Ares</b>	<b>AMD Ryzen9 7945hx</b>	<b>64GB</b>
<b>Stoofvlees</b>	<b>AMD 3900x nVidia 3080ti + nVidia 4070 super</b>	<b>32GB</b>
<b>Tornado</b>	<b>AMD Ryzen9 7950x</b>	<b>64GB</b>
<b>Raptor</b>	<b>AMD Threadripper 64 cores</b>	<b>128 GB</b>
<b>Jonny</b>	<b>3x192 cores (Epyc 9784x) + 32x128 cores (Epyc 9554) = total 4672 cores</b>	
<b>Rofchade</b>	<b>Threadripper 3990x (64 cores)</b>	<b>64GB</b>

Despite inferior hardware, we came out undefeated in all games we were able to play against these monsters. We even won a blitz game versus Tornado. We report the game below and also attach it in pgn.

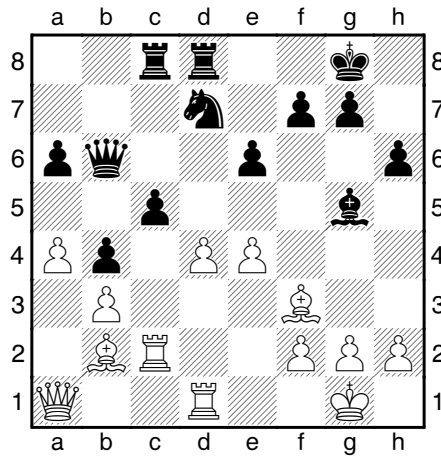
### **ShashChess Santiago - Tornado Santiago [D27]**

Santiago Blitz: WCCC 2024, 21.10.2024

[Andrea Manzo]

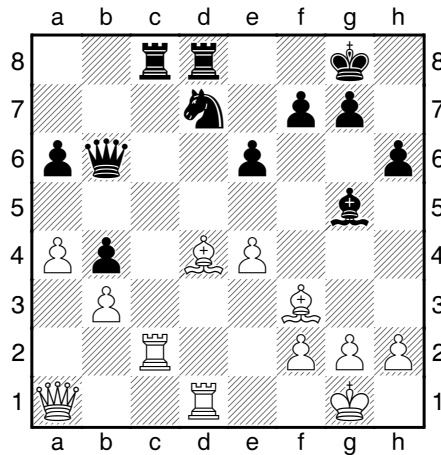
[Shashchess: Intel i7-8750H (6 cores/12 threads) 16GB (backup machine, originally intended to use AWS 192-446 cores) Tornado: AMD Ryzen9 7950x (16 cores/32 threads), 64GB]

**1.d4** [0.00/00] **d5** [8] **2.♘f3** [0.00/00] **♘f6** [8] **3.e4** [0.00/00] **♙xc4** [8] **4.e3** [0.00/00] **c5** [6] **5.♗xc4** [0.00/00] **e6** [8] **6.0-0** [0.00/00] **a6** [8] **7.b3** [0.00/00] **b5** [7] **8.♗c2** [0.00/00] **♗bd7** [9] **9.♗b2** [0.00/00] **♗b7** [38] **10.a4** [0.00/00] **b4** [11] **11.♗bd2** [0.00/00] **♗e7** [14] **12.♗c4** [0.00/00] **0-0** [9] **13.♗fe5** [0.00/00] **♗c8** [8] **14.♗f3**↑ [0.29/3017] **♗d5** [16] **15.♗xd7** [0.30/320] **♗xd7** [8] **16.♗c1** [0.39/310] **♗c7** [9 (h6)] **17.e4** [0.39/326] **♗xc4** [22] **18.♗xc4** [0.34/354] **♗fd8N** [♠18...♗b8 19.dxc5 ♗xc5 20.♗d4 ♗f6 21.e5 ♗e7 22.♗e3 ♗d7 23.♗xc8 ♗xc8 24.♗d1 ♗c5 25.♗e2 ♗a7 26.a5 g6 27.g3 ♗b8 28.♗c1 ♗c7 29.♗c4 ♗xa5 30.♗e3 ♗g7 31.♗g2 ♗c7 32.♗c1 ♗d7 33.♗xa6 ♗b8 34.h3 ♗c7 35.♗a8 ♗xa8 36.♗xa8 ♗b6 37.♗xc7 ♗xc7 38.f4 ♗b6 39.♗d2 ♗c5 40.♗xb4 ♗xb3 41.♗f3 ♗c5 42.♗xc5 ½-½ Nouveau,L (1897)-Ralle,P (2290) FRA-ch email ICCF email 2018] **19.♗c2** [0.40/264] [♠19.♗e2] **19...♗b6** [25] [♠19...♗b8] **20.♗c1** [0.44/357] **h6** [33] [♠20...♗b8] **21.♗d1** [0.52/296] **♗g5** [9] [♠21...a5] **22.♗a1** [



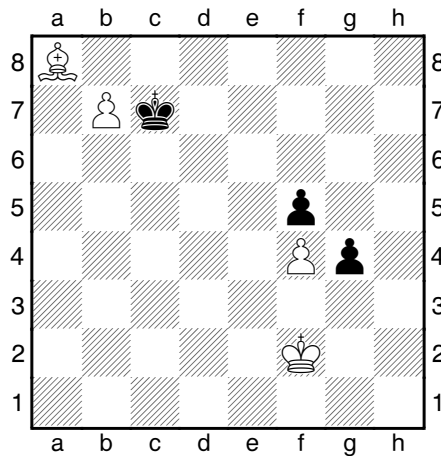
0.57/223]

**22...exd4?**± [14] [Δ22...a5] **23.♙xd4** [



0.98/233]

**23...♘c5??**+ [12] [23...♖b8] **24.a5** [1.51/244] ♖a7 [22] **25.e5** [1.63/290] ♖e7 [21] [25...♙e7] **26.♖b1** [2.01/245] ♖f8 [14] **27.♞c4** [2.67/280] ♙e7 [13] **28.♖c2** [2.90/280] ♞c7 [27] [28...g6] **29.♙c3** [3.18/235] ♞b8 [7] [29...♞dc8] **30.♞d6** [3.50/225] ♙xd6 [28] **31.exd6** [3.84/260] ♖xd6 [26] **32.♙xc5** [4.02/310] ♖e5 [10] **33.g3** [4.05/240] ♖a1+ [8] **34.♙g2** [4.06/230] ♖xa5 [9] **35.♙d6** [4.08/261] ♞xc4 [11] **36.♖xc4** [4.08/260] ♞c8 [20] **37.♖c6** [4.13/250] ♖d8 [25] **38.♖xa6** [4.18/270] e5 [9] **39.♙xb4** [4.17/260] e4 [8] **40.♙c2** [4.20/240] e3 [17] **41.f3** [4.23/270] ♖a8 [7] [41...♖d5] **42.♙c3** [4.33/207] ♖xa6 [23] **43.♙xa6** [4.36/270] ♞a8 [8] **44.♙c4** [4.31/210] ♞a2+ [8] **45.♙g1** [4.35/240] ♞c2 [8] **46.♙d4** [4.41/215] ♞c1+ [7] **47.♙g2** [4.43/210] ♞c2+ [7] **48.♙f1** [4.46/240] ♞xh2 [9] **49.♙xc3** [4.50/220] ♞c2 [22] **50.♙d5** [4.57/240] ♙f8 [20] [50...♞b2] **51.b4** [4.79/194] f5 [9] [51...♞b2] **52.b5** [5.68/187] ♙c7 [15] **53.b6** [6.08/230] ♙d6 [7] **54.♙a8** [7.77/215] ♞c4 [20 (g5)] **55.♙f4+** [199.63/2212] ♞xf4 [11] [55...♙d7] **56.gxf4** [199.78/194] ♙d7 [8] **57.b7** [199.81/370] ♙c7 [7] **58.♙f2** [199.83/490] ♙b8 [17] **59.♙g3** [199.87/510] g5 [8] [59...♙c7] **60.fxg5** [199.94/424] hxg5 [7] **61.f4** [0.01/00] g4 [14] **62.♙f2** [0.01/00] ♙c7 [



20]

**63.b8♖+** [0.01/00] **♗xb8** [24] **64.♗d5** [2/1 0] **64...g3+** [15] **65.♗xg3** [2/1 0]  
**65...♗c7** [7] **66.♗e6** [1/1 0] **66...♗d6** [7] **67.♗xf5** [2/1 0] **67...♗d5** [7] **68.♗g6** [1/0  
0] **68...♗e6** [7] **69.f5+** [4/1 0] **69...♗e5** [6] **70.♗f3** [3/0 0] **70...♗f6** [8] **71.♗f4** [2/0  
0] **71...♗e7** [6] **72.♗e5** [1/0 0] **72...♗f8** [6] **73.f6** [1/1 0] **73...♗g8** [7] **74.f7+** [4/1  
0] **74...♗g7** [6]  
**75.♗d5** [3/0 0] **75...♗f8** [7] **76.♗e6** [2/0 0] **76...♗g7** [7] **77.♗e7** [1/1 0] **77...♗h6** [6]  
**78.f8♖+** [3/1 0] **78...♗xg6** [9] **79.♖f4** [3/1 0] **79...♗h5** [8] **80.♖g3** [2/1 0] **80...♗h6** [8]  
**81.♗f6** [1/1 0] **81...♗h5** [7] **82.♖h3#**[#1/00] **1-0**

## Conclusion

We hope that, for the next edition, organizers will seriously consider adding a thematic tournament focused on unbalanced, sharp positions. We also encourage a review of private source control practices and steps to prevent infrastructural issues. For our part, this was our first experience, and we encountered some unexpected challenges that may have cost us valuable half-points. In the future, we'll aim to have a backup plan for infrastructure. Above all, we extend our heartfelt thanks to everyone involved—especially the organizers—for a fantastic week spent together.

Andrea Manzo & Paolo Ciancarini  
University of Bologna