Short Comment to the UEC Cup Tournament and the Densei-sen

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Like most programs nowadays, Crazy Stone is based on Monte-Carlo tree search. Besides the basic UCT-like search, the strength of Crazy Stone comes from domain-specific knowledge implemented as patterns. Machine learning was used to automatically extract pattern knowledge from a database of game records of strong players. This knowledge is used to bias the tree growth and the playout policy.

On the hardware side, Crazy Stone was running on a 64-core AMD server (thanks to the support of Unbalance Corporation, the publisher of Crazy Stone in Japan). Powerful hardware also helped strength a lot.

With new sponsors, and a new more ambitious organization, the 6th edition of the UEC Cup was really nice. I particularly enjoyed that many western participants came to Tokyo thanks to travel support offered by the organizers. Most of the top go programmers in the world attended this edition, which led to many exciting games, and very interesting discussions between participants.

In fact, thanks to discussions with my opponents, I got an idea during the first day. I implemented that idea during the night between the first and second day, and got a very big strength improvement. That idea is to use a virtual loss in the parallel search. It is an idea that I invented myself very long ago (Crazy Stone was already using it when it won the gold medal of the Computer Olympiad in Turin, 2006), but I had stopped using it because I did not measure a big strength improvement at that time. It turns out that with 64 cores, the effect of adding a virtual loss was huge. The new version won 74 to 30 in self play against the previous version in a match played during the night. So I kept the new version and it was very successful during the second day and the game against Yoshio Ishida.

I had a great time in Tokyo this year, and I am looking forward to participating in the next edition of the UEC Cup.

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