Content

Short Description ........................................................................................................................................... 1
Committee & Information ................................................................................................................................. 2

Schedule
Invited Session (August 21, 2009) .................................................................................................................. 3
Computer Go Competition (August 21, 2009) ................................................................................................. 5
Computer Go Competition (August 22, 2009) ................................................................................................. 6
Panel Session (August 22, 2009) ..................................................................................................................... 7
IEEE CIS ETTC and Computer Go Lunch Meeting (August 23, 2009) ......................................................... 7

Go Players and Computer Go Programs ......................................................................................................... 8

News Report
Taiwan Open 2009 on CNN-iReport ............................................................................................................. 10
News Report of 2008 Computational Intelligence Forum and World 9×9 Computer Go
  Championship by “The Enclave,” USA .............................................................................................................. 11
News Report of 2008 Computational Intelligence Forum and World 9×9 Computer Go
  Championship by “Sciences En Fete,” France ................................................................................................ 16
News Report of 2008 Computational Intelligence Forum and World 9×9 Computer Go
  Championship by “DGoB-Diskussions forum,” Germany ............................................................................... 18

Rules of Human vs. Computer Go Competition .............................................................................................. 19
Activity Poster .................................................................................................................................................. 21
Reference ......................................................................................................................................................... 22
Short Description

Computer Go has been developing for the past several years. In 1998, Martin Muller won despite 29 handicap stones against the computer Go “Many Faces of Go”. In August 2008, the computer Go “MoGo” has won with an advantage of “only” 9 handicap stones against top-level human players in 19×19 Go—Myung-Wan Kim, who won the 2008 US Open with Korean 8th Dan Pro (8P). Additionally, another computer Go “CrazyStone” won with handicaps of 8 and 7 stones against Kaori Aoba, a Japanese 4th Dan Pro (4P) in December 2008. Due to the development of the Computational Intelligence, computer Go has made considerable progress for the past 10 years. Programs are currently competitive at the professional level in 9 by 9 Go.

To strengthen computer Go programs and advocate research, development and application of computer games’ related fields, Taiwan hosted the “2008 Computational Intelligence Forum and World 9 by 9 Computer Go Championship” on September 25-27, 2008, and “2009 Invited Games for MoGo vs. Taiwan Professional Go Players (Taiwan Open 2009)” on February 10-13, 2009. The 2008 and 2009 events were widely reported by the several international mass media such as USA, Germany, France, and Japan.

The game of Go is one of the last board game where the strongest humans are still able to easily win against Computer Go program. But researchers have discovered new performing algorithms and computers are catching up really fast. “Taiwan Open 2009” has been ended with a success in making two world records. The Go program “MoGo” made two new world records by winning a 19×19 game with 7 handicap stones against the 9P professional Go player Chun-Hsun Chou and a 19×19 game with 6 handicap stones against the 1P professional Go player Li-Chen Chien. If computers continue to improve at this rate, one more human stronghold may fall in front of machines in less than 10 years. Afterwards, the development team of MoGo will definitely continue to enhance the strength and improve the weakness of MoGo by learning more knowledge and strategy from professional Go players in the future.

In order to enhance the fun in Go playing by human interaction with computer programs and to stimulate the development and researches of computer Go programs, the “FUZZ-IEEE 2009: Panel, Invited Sessions, and Human vs. Computer Go Competition” will be held at the 2009 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2009), Jeju Island, Korea, and is organized by some Taiwan’s academic affiliations, including National University of Tainan (NUTN), Taiwanese Association for Artificial Intelligence (TAAI), Institute of Information Science (IIS) of Academia Sinica, and National Science Council (NSC), as well as France’s academic affiliation TAO, INRIA. The objective of the proposed panel and invited session is to highlight an ongoing research on Computational Intelligence approaches as well as their applications on game domains. In addition, it is also hoped that the advances in computational intelligence will make more progress in the field of computer Go than before to achieve as much as computer chess or Chinese chess in the future.
Committee & Information

Panel, Invited Sessions, and Human vs. Computer Go Competition
http://www.fuzz-ieee2009.org/

Advisory Board:
Ingo Althofer  
Friedrich-Schiller-Universitaet Jena, Germany
Piero P. Bonissone  
General Electric Global Research, USA
Keh-Hsun Chen  
University of North Carolina at Charlotte, USA
Eric Dunham  
Owner and Editor, Enclave Go Magazine, USA
David B. Fogel  
Chairman of the Board, NSI , USA
Hani Hagras  
University of Essex, UK
Tzung-Pei Hong  
National University of Kaohsiung, Taiwan
Hsiu-Shuang Huang  
National University of Tainan, Taiwan
Tsau-Sheng Hsu  
Academia Sinica, Taiwan
Simon Lucas  
University of Essex, UK
Vincenzo Loia  
University of Salerno, Italy
Hideyuki Takagi  
Kyushu University, Japan
Kay C. Wiese  
Simon Fraser University, Canada

Co-Chairs:
Chang-Shing Lee  
National University of Tainan, Taiwan
Hani Hagras  
University of Essex, UK
Olivier Teytaud  
TAO, INRIA, France
Shun-Chin Hsu  
Chang Jung Christian University, Taiwan
Chun-Nan Hsu  
Academia Sinica, Taiwan

Panelists:
Chang-Shing Lee  
National University of Tainan, Taiwan
Hani Hagras  
University of Essex, UK
Robert John  
Centre for Computational Intelligence, UK
Shi-Jim Yen  
National Dong Hwa University, Taiwan
Olivier Teytaud  
TAO, INRIA, France
Shun-Chin Hsu  
Chang Jung Christian University, Taiwan
Shang-Rong Tsai  
Chang Jung Christian University, Taiwan

Chief Referee:
Shang-Rong Tsai  
Chang Jung Christian University, Taiwan

Hosts:
IEEE Computational Intelligence Society (IEEE CIS)

Co-Organizers:
National University of Tainan (NUTN), Taiwan
Taiwanese Association for Artificial Intelligence (TAAI), Taiwan
Institute of Information Science (IIS) of Academia Sinica, Taiwan
National Science Council (NSC), Taiwan
TAO, INRIA, France
IEEE CIS Emergent Technologies Technical Committee (ETTC)
Computer Center of NUTN, Taiwan
Dept. of Computer Science and Information Engineering, NUTN, Taiwan

Co-Sponsors:
Alcatel-Lucent, Taiwan
HeroIT.com Co. Ltd., Taiwan
Chinese Association for Go, Taiwan
Microsoft Taiwan Corporation

Date:
August 21-23, 2009

Place:
Room 402 of International Convention Center, Jeju Island, Korea

Go Players:
Chun-Hsun Chou (9P Professional Go Player), Taiwan
Shen-Su Chang (6D Amateur Go Player), Taiwan

Computer Go Programs:
MoGo, France  
Gold medal of Computer Olympiad Go (19 × 19), 2007
Many Faces of Go, USA  
Gold medal of Computer Olympiad Go (19 × 19), 2008
Zen, Japan  
Gold medal of Computer Olympiad Go (19 × 19), 2009
Fuego, Canada  
Gold medal of Computer Olympiad Go (9 × 9), 2009

Rules:
Chinese rules (http://www.icga.org/tournaments/olympiadgo.pdf)
# Invited Session (August 21, 2009)

**Friday, August 21, 2009 - Room 402**

<table>
<thead>
<tr>
<th>Time</th>
<th>Invited Session</th>
</tr>
</thead>
</table>
| 11:50-12:30 | Session Chair: Prof. Robert John  
Topic: Introduction and Discussion for Computer Go |

**Opening Introduction**

- **Dr. David B. Fogel**  
  IEEE CIS President
- **Prof. Frank Chung-Hoon Rhee**  
  FUZZ-IEEE 2009 Program Chair
- **Prof. Robert John**  
  FUZZ-IEEE 2009 Panel & Invited Session Chair

**Panel Discussion**

**Session Co-Chairs**

- **Prof. Chang-Shing Lee**  
  National University of Tainan, Taiwan
- **Prof. Hani Hagras**  
  University of Essex, UK
- **Prof. Shun-Chin Hsu**  
  Chang Jung Christian University, Taiwan

**Panelists**

- **Dr. Olivier Teytaud**  
  TAO, INRIA, France
| Chief Referee | Prof. Shi-Jim Yen  
National Dong Hwa University, Taiwan |
|---------------|--------------------------------------------------|
|               | Prof. Hani Hagras  
University of Essex, UK |
|               | Prof. Chang-Shing Lee  
National University of Tainan, Taiwan |
|               | Prof. Shang-Rong Tsai  
Chang Jung Christian University, Taiwan |
# Computer Go Competition (August 21, 2009)

**Friday, August 21, 2009 - Room 402**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00-15:40</td>
<td>Human vs. Computer Go Competition #1 (19×19 Game / Komi 0.5)</td>
</tr>
<tr>
<td></td>
<td>Chun-Hsun Chou (9P) / H7 vs. Many Faces of Go (Operator: Prof. Shi-Jim Yen)</td>
</tr>
<tr>
<td></td>
<td>Shen-Su Chang (6D) / H4 vs. MoGo (Operator: Dr. Olivier Teytaud)</td>
</tr>
<tr>
<td>17:00-19:20</td>
<td>Human vs. Computer Go Competition #2 (9×9 Game)</td>
</tr>
<tr>
<td></td>
<td>9×9 Game 2-1 / Komi 7.5</td>
</tr>
<tr>
<td></td>
<td>Chun-Hsun Chou (9P) / Black vs. MoGo (Operator: Dr. Olivier Teytaud) / White</td>
</tr>
<tr>
<td></td>
<td>Shen-Su Chang (6D) / Black vs. Many Faces of Go (Operator: Prof. Shi-Jim Yen) / White</td>
</tr>
<tr>
<td></td>
<td>9×9 Game 2-2 / Komi 7.5</td>
</tr>
<tr>
<td></td>
<td>Chun-Hsun Chou (9P) / White vs. MoGo (Operator: Dr. Olivier Teytaud) / Black</td>
</tr>
<tr>
<td></td>
<td>Shen-Su Chang (6D) / White vs. Many Faces of Go (Operator: Prof. Shi-Jim Yen) / Black</td>
</tr>
</tbody>
</table>
## Computer Go Competition (August 22, 2009)

### Saturday, August 22, 2009 - Room 402

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00-11:00</td>
<td>Human vs. Computer Go Competition #3 (9×9 Game)</td>
</tr>
<tr>
<td></td>
<td>9×9 Game 3-1 / Komi 7.5</td>
</tr>
<tr>
<td>09:00</td>
<td>Chun-Hsun Chou (9P) / Black vs. Fuego (Operator: Dr. Olivier Teytaud) / White</td>
</tr>
<tr>
<td>10:00</td>
<td>Shen-Su Chang (6D) / Black vs. Zen (Operator: Prof. Shi-Jim Yen) / White</td>
</tr>
<tr>
<td>10:00-15:40</td>
<td>Human vs. Computer Go Competition #4 (19×19 Game / Komi 0.5)</td>
</tr>
<tr>
<td>14:00</td>
<td>Chun-Hsun Chou (9P) / H7 vs. Zen (Operator: Dr. Olivier Teytaud)</td>
</tr>
<tr>
<td>15:40</td>
<td>Shen-Su Chang (6D) / H4 vs. Fuego (Operator: Prof. Shi-Jim Yen)</td>
</tr>
</tbody>
</table>
## Panel Session (August 22, 2009)

**Saturday, August 22, 2009 - Room 402**

<table>
<thead>
<tr>
<th>Time</th>
<th>Panel Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:00-19:00</td>
<td><strong>Panel Session</strong>&lt;br&gt;<strong>Topic:</strong> Emergent Technologies for Computer Go</td>
</tr>
<tr>
<td></td>
<td><strong>Session Co-Chairs</strong></td>
</tr>
<tr>
<td></td>
<td>Prof. Chang-Shing Lee&lt;br&gt;National University of Tainan, Taiwan</td>
</tr>
<tr>
<td></td>
<td>Prof. Robert John&lt;br&gt;FUZZ-IEEE 2009 Panel &amp; Invited Session Chair</td>
</tr>
<tr>
<td></td>
<td>Dr. Olivier Teytaud&lt;br&gt;TAO, INRIA, France</td>
</tr>
<tr>
<td></td>
<td><strong>Panelists</strong></td>
</tr>
<tr>
<td></td>
<td>Prof. Shang-Rong Tsai&lt;br&gt;Chang Jung Christian University, Taiwan</td>
</tr>
<tr>
<td></td>
<td>Prof. Shun-Chin Hsu&lt;br&gt;Chang Jung Christian University, Taiwan</td>
</tr>
<tr>
<td></td>
<td>Prof. Shi-Jim Yen&lt;br&gt;National Dong Hwa University, Taiwan</td>
</tr>
<tr>
<td></td>
<td>Prof. Hani Hagras&lt;br&gt;University of Essex, UK</td>
</tr>
<tr>
<td></td>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td></td>
<td>Dr. David B. Fogel&lt;br&gt;IEEE CIS President</td>
</tr>
</tbody>
</table>

## IEEE CIS ETTC and Computer Go Lunch Meeting (August 23, 2009)

**Sunday, August 23, 2009**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00-13:30</td>
<td>IEEE CIS ETTC and Computer Go Lunch Meeting</td>
</tr>
</tbody>
</table>
## Go Players and Computer Go Programs

### Go Players

- **Chun-Hsun Chou** (9P Professional Go Player), Taiwan
- **Shen-Su Chang** (6D Amateur Go Player), Taiwan

### Computer Go Programs

#### 12th, 2007 Computer Olympiad, Go

<table>
<thead>
<tr>
<th>Program</th>
<th>Country</th>
<th>Author</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MoGo</td>
<td>France</td>
<td>Sylvain Gelly, Yizao Wang, Olivier Teytaud, Jean-Baptiste Hooock, Guillaume Chaslot, Arpad Rimmel</td>
<td>Gold medal</td>
</tr>
<tr>
<td>MoGo (9×9)</td>
<td>France</td>
<td>Sylvain Gelly, Yizao Wang, Olivier Teytaud, Jean-Baptiste Hooock, Guillaume Chaslot, Arpad Rimmel</td>
<td>Silver medal</td>
</tr>
</tbody>
</table>

#### 13th, 2008 Computer Olympiad, Go

<table>
<thead>
<tr>
<th>Program</th>
<th>Country</th>
<th>Author</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Many Faces of Go</td>
<td>USA</td>
<td>David Fotland</td>
<td>Gold medal</td>
</tr>
<tr>
<td>MoGo</td>
<td>France</td>
<td>Sylvain Gelly, Yizao Wang, Olivier Teytaud, Jean-Baptiste Hooock, Guillaume Chaslot, Arpad Rimmel</td>
<td>Silver medal</td>
</tr>
<tr>
<td>Many Faces of Go (9×9)</td>
<td>USA</td>
<td>David Fotland</td>
<td>Gold medal</td>
</tr>
<tr>
<td>MoGo (9×9)</td>
<td>France</td>
<td>Sylvain Gelly, Yizao Wang, Olivier Teytaud, Jean-Baptiste Hooock, Guillaume Chaslot, Arpad Rimmel</td>
<td>Bronze medal</td>
</tr>
</tbody>
</table>
### 14th, 2009 Computer Olympiad, Go

<table>
<thead>
<tr>
<th>Program</th>
<th>Country</th>
<th>Author</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zen</td>
<td>Japan</td>
<td>Yamato</td>
<td>Gold medal</td>
</tr>
<tr>
<td>Fuego</td>
<td>Canada</td>
<td>Markus Enzenberger, Martin Müller, Broderick Arneson, Richard Segal, Gerald Tesauro</td>
<td>Silver medal</td>
</tr>
<tr>
<td>MoGo</td>
<td>France</td>
<td>Sylvain Gelly, Yizao Wang, Olivier Teytaud, Jean-Baptiste Hoock, Guillaume Chaslot, Arpad Rimmel</td>
<td>Bronze medal</td>
</tr>
<tr>
<td>Fuego (9×9)</td>
<td>Canada</td>
<td>Markus Enzenberger, Martin Müller, Broderick Arneson, Richard Segal, Gerald Tesauro</td>
<td>Gold medal</td>
</tr>
<tr>
<td>MoGo (9×9)</td>
<td>France</td>
<td>Sylvain Gelly, Yizao Wang, Olivier Teytaud, Jean-Baptiste Hoock, Guillaume Chaslot, Arpad Rimmel</td>
<td>Silver medal</td>
</tr>
</tbody>
</table>

### Authors of MoGo

**Olivier Teytaud**  
TAO, INRIA, France

**Arpad Rimmel**  
University of South Paris, France

**Guillaume Chaslot**  
University of Maastricht, The Netherlands

**Jean-Baptiste Hoock**  
TAO, INRIA, France
The game of Go is one of the last board games where the strongest humans are still able to easily win against artificial intelligence. But researchers have discovered new performing algorithms and computers are catching up really fast. The Taiwan Open 2009 was held in Tainan Taiwan between the tenth and thirteenth of February. On the first two days of the event, the Go program MoGo made two new world records by winning a 19 by 19 game with 7 handicap stones against the 9P professional Go player Jun-Xun Zhou and a 19 by 19 game with 6 handicap stones against the 1P professional Go player Li-Chen Chien. If computers continue to improve at this rate, one more human stronghold may fall in front of machines in less than 10 years.

Arpad Rimmel reports on National University of Tainan (NUTN), Taiwan, on Feb. 14, 2009.

The Enclave
A PREMIUM ENGLISH LANGUAGE GO MAGAZINE
In 1992, TD Gammon, a computer program, played at the World Cup of Backgammon, and achieved an even record with the best players in the world. Since then, humans have never been able to overcome backgammon programs. In 1997, Gary Kasparov, then-world chess champion, was dethroned by Deep Blue, an IBM supercomputer. That day, chess ceased to be a stronghold of human intelligence. And on other fronts, humans are losing ground to machines. Most board games are already being won by computers. Humans can still win in Scrabble, poker, bridge, and others. But computers are already starting to win those games. The only game where computers really fall short is Go. That’s because Go is an incredibly complex game, hundreds and hundreds of times more complex than chess. In chess, there are $10^{39}$ possible moves, in Go $2.08 \times 10^{130}$ possible moves on a 19x19 goban. On a chess board, each turn presents just a dozen different viable moves, but in Go, this can jump up easily to a few hundred different moves. Where chess programs can read some 500,000 moves in a second, Go programs can run only 50 moves in a second. To put it in perspective, a supercomputer as powerful as Deep Blue could calculate some 200 million chess moves in a second, but it would take a year and a half to do the exact same thing in a game of Go.
Therefore Go presents a much greater challenge to computers and their programmers. To even the playing field, computers and humans face each other on much smaller 9x9 boards. The smaller boardsize cuts down on the number of possible moves, greatly decreasing the workload for the computer. On a 9x9 goban, Go programs have already beaten players as strong as 5p in official matches.

Around the world, supercomputers are starting to win against strong amateur players. Soon, even Go will no longer be a game dominated by humans. As processing power increases, and ever more intelligent algorithms are brought to the fore, computers will begin to win even in this last board game.

In Tainan, Taiwan, at the National University of Tsing Hua (NUTN), the battle was brought to the front in September during the World 9x9 Computer Go Championships. On September 27, MoGo, a Go program, running on the Dutch National Supercomputer, known as Huygens, faced off against Zhou Junxun, 9p. The event began on the 25th, with MoGo playing against two amateurs, Professor Dong [5d], and Mr. Luoh [6d]. MoGo beat Dong in every game, but lost every game to Mr. Luoh.

That same day the forum heard from many speakers, including Dr. Olivier Teytaud, one of MoGo’s developers. This was followed on the 27th by the main attraction—MoGo facing off against Junxun in three rounds.

In Conference Room B309, in Chengzheng Hall, the movers and shakers of the World 9x9 Computer Go Championships are getting ready for the highlight. The first two games will be MoGo versus Junxun on a 9x9 board. As the time draws near for the first game, the participants sit and prepare for the game. In front of the computer is Dr. Olivier Teytaud, one of MoGo’s designers, who will read the moves off of the computer and place them on a physical board. Sitting beside him is Professor Tsai, who will be the witness for the game. Across from them sits Zhou Junxun, his face drawn into a mask of concentration as he prepares for the game. Across the room, photographers watch and snap pictures as the game begins.
Junxun has a lot to think about. MoGo has been playing decently against strong amateur players, not well enough to threaten Junxun, but in those games MoGo has been using no more than half the power Huygens will bring to bear in this match. In these rounds, MoGo will be using the full power of 800 processor cores. Just a single one of these processors is powerful enough to beat the average Go player.

The tension in the room is a palpable thing for the players. MoGo will be moving first in this game. MoGo makes its first move at tengen. It is well known that tengen is the best possible move on a 9x9 board, so this is not a surprise. Junxun places a stone, Teytaud copies it on the computer screen, and the game begins.

As the game goes back and forth between the liquid screen and the wooden goban, it becomes apparent that MoGo is winning. At move 11, Junxun stops and examines the game closely. His turn stretches on for a long time; over five minutes have passed since his last move.

Watchers over the internet begin to speculate that Junxun has already lost this match. Nobody expects Junxun to be able to win against such a powerful computer on such a small board.

However, Junxun continues the game, in spite of what people were expecting. At first his move looks desperate, almost unnecessary, like the last-ditch effort of a losing team. But then, as it plays out, suddenly it becomes clear that Junxun knew exactly what he was doing. Within another few moves, onlookers have changed their mind about the game. Everyone agrees the game looks fairly even.

Suddenly, after just eleven moves, the game doesn’t just look even, it looks like Junxun has won. By move 36, even MoGo agrees, and resigns. After the match, Junxun comments, “In the first 9x9 game with MoGo, I was shocked to find after eleven moves that I had already lost the game. I was really very shocked. It took me five minutes to calm down and start designing a hamete that the computer could not see and could not reverse.”

On the second game, Junxun takes black and makes the first move. In this second game, he is much more confident and almost immediately he begins to take the lead. Within 25 moves, the game is decided. MoGo takes another 15 moves and then resigns. Junxun says, “I took black in the second game, and it was a relatively easy game.”

After a short break, the matches continued with the third game, a full-sized 19x19 match. Because of the enormously larger workload it will be facing, Mogo takes a seven stone handicap. But unfortunately for MoGo and its developers, seven stones is not enough. Though Mogo has been able to beat many strong players with
eight and nine stones, it seems that is not yet ready to move down to seven stones.

Almost immediately MoGo makes a costly mistake and loses a corner. Mogo cannot immediately see that it has lost the corner and ends up wasting precious moves trying to save it. As it struggles to make the dead group live again, Junxun strengthens his hold on the corner.

The onlookers are not too surprised. Some comment that MoGo could have kept the corner, but nobody says much else. On a 19x19 board, this is expected.

After the first mistake, Junxun takes each corner of the goban, one by one, stripping MoGo of its lead. Less than halfway into the game, onlookers are proclaiming the game over. And as MoGo makes mistake after mistake, they are proved right.

Junxun later says that he figured he had won the game by move 30. Their is an almost nonchalant air about the way that the internet watchers dismiss MoGo as unimportant. There has not yet been a computer program that can challenge a professional Go player on a 19x19 board, and this one is the same as all the others.

What many of them are forgetting is that just a few years ago, Go programs could barely compete with the average club Go player, much less a professional. But, with the advent of Monte Carlo algorithms, that has changed completely. Where computers used to barely manage an 8 kyu level of play, they now are able to average low amateur dan play.

As Dr. Jaap van den Herik of Maastricht University said, “This is remarkable, since around 2000 it was generally believed that the game of Go was safe to any attack by a computer program.”

Mr. Junxun may have won the match today, and he may win in the years to come, but soon it will be much more difficult. Dr. Herik predicts, “...before 2020 a computer program will defeat the best human Go player on a 19x19 Go board in a regular match under normal tournament conditions.”

For now, Go players laugh at the prospect. But the next few years may tell a very different story.

Many thanks to Dr. Chang-Shing of the National University of Taiwan for his help in writing this article!

Jeu de Go: les règles

Le groupe blanc n’aura plus aucun endroit où respirer
--> il est mort (on l’enlève)!

Le groupe blanc a deux cases libres --> il ne peut plus mourir (noir aurait besoin de jouer deux fois en même temps!)

Si noir prend, blanc pourrait reprendre... mais la règle du "ko" interdit de revenir à une situation identique, donc non! Blanc répond ailleurs.

À la fin on compte les points
--> noir commence, donc +7.5 pour blanc

Pourquoi s'intéresser au jeu de Go ?

1. Plus difficile pour les ordinateurs que les échecs
   (aux échecs les machines rigolent contre les meilleurs mondiaux)
   + bon modèle de problèmes industriels
   + performances faciles à évaluer
   (National University of Tainan, Taiwan)

2. Très bon pour les enfants
   - pour le calme, pour la concentration
   - beaucoup d'idées passent par le Go (écoles en Asie, stages de management en France)

3. Où en sont les ordinateurs ? grâce à des techniques très neuves:
   2007: première victoire contre un joueur pro en 9x9
   2008: première victoire non-blitz contre un joueur pro en 9x9
   2008: première victoire (à handicap 9!) contre un top pro en 19x19

NE BRADONS PAS LA RECHERCHE
Les morceaux du supercalculateur et quelques autres images...

(Jeu: qu’est-ce qui est quoi ?)

25 IBM Power-6 32 coeurs, 4.7 Ghz avec connectique infiniband, fournis par Amsterdam.

Un peu d'histoire

- 2230 avant JC; invention à but pédagogique, pour le fils de l'empereur Shun (2255 à 2206 avant JC)
- 300 après JC, une guerre aurait été résolue (remplacée) par une partie de Go
- 735 après JC, arrivée au Japon
- 850 après JC, le jeu symétrique aurait été employé efficacement
- 16ème siècle: premières écoles de Go
- 2000: victoire contre un pro en 9x9
- 2007: un challenge international international gagné avec technique proche
- 2006:
  - au National University of Tainan (Taiwan)
  - première victoire contre un pro en 19x19 à handicap 9 (US Open, Portland)
  - présentations/-utilisation de la technique en milieu industriel

TAO, inria + cnrs + Iri
+ université Paris-Sud
+ univ. Maastricht
+ NUTN (Taiwan)

Une seule personne au monde arrive à jouer une partie entière en aveugle (Bao Yun, 6Dan)
Le Go utiliserait plutôt l'hémisphère droit (contrairement aux échecs) (Cheng et al, 2002)
News Report of 2008 Computational Intelligence Forum and World 9×9 Computer Go Championship by "DGoB-Diskussions forum," Germany

**Autor:** Thomas Zhao Junrun (Sp) vs Motio (Gelesen 293 mal)

**Datum:** 24.09.2008 06:34

Hello all players,

am Sa. 27. September, soll an der "National University of Taiwan" in TaipeiCity (Taiwan) eine Go-Schaupartei stattfinden zwischen dem aktiven Newzeelander Prof. (Zhou Junrun, Sp), Gewinner des LG-Cups 2007) und dem Computerspieler MoGo. MoGo soll dabei auf noch markasierter Hardware taufen als bei der Auftragspartie mit Kim Myung Won (Sp). Gegen Myung Won hatte MoGo mit 9-sterniger Vorgabe gewonnen.

Geplante Dauer des Ereignisses sind zwei nachmittags (9:30 - 12:00 Uhr lokale). Welche Vorgabe gegeben wird, weiss ich nicht. Vielleicht wird die Vorgabe erst nach einigen Aufwärmen- partien festgelegt.

Link: http://www.ingopub.de/wen/kwon902.htm (dort News anklicken, im Beitrag 2008-09-05 geht es um die Schaupartei)

Ingo Altshöfer.

† Letzte Aenderung: Heute um 06:34 von Ingo Altshöfer

---

**Autor:** MoGo vs Prof.Tsai (6d) (Gelesen 30 mal)

**Datum:** 24.09.2008 11:36

Zum Abschluss der Computer-Go-Aktivitäten gab es heute an der National University of Taiwan (TaipeiCity, Taiwan) zwei Partien von MoGo (auf markasierter Hardware) gegen einen Amateur-6d, Prof. Tsai.

In beiden Partien besiegte MoGo 5 Vorgabe-Stone und konnte diese Partien jeweils mit 1,5 Punkten gewinnen.

Im Archiv des KGS sind die Partien herunterladbar von der Seite


Es sind die beiden Partien mit Startzeiten

27.09.08 08:00
27.09.08 09:15

Eine Information, um Verwechslung zu vermeiden: Die früheren Partien am 27.09. spielte MoGo gegen Zhou Junrun (Sp), der aktuellen Vorgabe ist "teiauxd" als Gegner von MoGo/6d genannt, weil

Dr. Olivier Teiaux vom MoGo-Team das Internet-Terminal bediente.

Ingo Altshöfer.

† Letzte Aenderung: Heute um 11:36 von Ingo Altshöfer

---

**Autor:** MoGo gewinnt 9×9-Computer-WM in Taiwan (Gelesen 88 mal)

**Datum:** 24.09.2008 10:55

Heute wurde in Taiwan an der "National University of Taiwan" in TaipeiCity in einem Eintritts- Turnier nach CH-System die Computer-WM im 9×9-Go ausgetragen.

Zeitlimit war 30 Minuten pro Seite, Es siegte MoGo mit 5 Einsätzen.

Was nun hier, sobald bekannt.

Ingo Altshöfer.

† Letzte Aenderung: Heute um 10:56 von Ingo Altshöfer
Rules of Human vs. Computer Go Competition

1. Basic Rules
   - 9×9 Game: 30 minutes per side, Komi 7.5, Chinese rules (1 hour per game)
   - 19×19 Game: 45 minutes per side, Komi 0.5, Chinese rules (90 minutes per game)

2. Informal Outline
   - Chinese Rules
     - area scoring,
     - suicide is illegal,
     - basic ko + long cycle rule (no superko!).
   - 19×19 Go
     - Each program should complete its moves for 19×19 Go in 45 minutes.
     - In case of a dispute where each program has played at least 125 moves in 45 minutes the result is decided by the tournament director. If only one program has not played at least 125 moves in 45 minutes that program loses immediately.
   - 9×9 Go
     - Each program should complete its moves for 9×9 Go in 30 minutes.
     - In case of a dispute where each program has played at least 30 moves in 30 minutes the result is decided by the tournament director. If only one program has not played at least 30 moves in 30 minutes that program loses immediately.

3. Rules
   Important: Although we attempt to be as precise as possible, we cannot rule out that disputes arise due to unforeseen events that are not (adequately) covered by this rules text. When this happens all participants are expected to behave in a sportsmanlike manner and accept the decision by the tournament director (TD), who may use any means at his discretion to come to a fair decision.
   - The Board
     The game of Go is played by two programs, Black and White, on a rectangular grid of horizontal and vertical lines (9×9 or 19×19). Each intersection of the grid is colored black if it contains a black stone, white if it contains a white stone, or empty if it contains no stone. Initially the board is empty.
   - The Move
     One program uses black stones, the other white stones. The program with the black stones starts the game. The programs move alternately. A move is either a play of a stone on an empty intersection, or a pass. Instead of moving, at any point during the game a program, or its operator, may resign, in which case the game ends as a win for the opponent.
   - Connectivity and Liberties
     Two intersections are adjacent if they have a line but no intersection between them. Two adjacent intersections are connected if they have the same color. Two non-adjacent intersections are connected if there is a path along lines of adjacent intersections of their color between them. For an intersection, the intersection and all connected intersections of the same color form a block. The adjacent empty intersections of a block are called liberties.
   - Capture
     A block is captured when the opponent plays a (legal) move on the block’s last liberty. Captured blocks are removed from the grid; the intersections are colored empty.
   - Illegal Moves
     Suicide: A play that does not capture any block and leaves its own block without a
liberty is illegal.

**Ko:** A play may not capture a single stone if this stone was played to capture a single stone in the last preceding play.

- **Long Cycle Rule**
  A board position is defined by the coloring of the grid’s intersections directly after play and any consequent removals.
  If a play recreates a previous board position then exceptionally and immediately the game ends and is scored, based on an analysis of all moves played since the moment just after the first occurrence until the moment just after the last occurrence, as follows:
  - If between the two occurrences the difference in number of captured black and white stones is not zero, then the program that captured the most stones of the opposing color wins the game.
  - If between the two occurrences the difference in number of captured black and white stones is zero, then the game ends as a draw.

- **Scoring**
  Each black or white intersection counts as a point for its respective color. Each empty intersection which is part of an empty block adjacent only to intersections of one color counts as a point for that adjacent color.
  The score is determined according to KGS (http://www.gokgs.com/) scoring rules.

- **References**
PANEL, INVITED SESSIONS,
and HUMAN vs. COMPUTER GO COMPETITION
August 21–23, 2009  ICC Jeju, Jeju Island, Korea

Human vs. Computer Go Competition
9x9 & 19x19 Games
August 21-23, 2009

Go Players:
- Professional: Chun-Hsun Chou, 9P (Taiwan)
- Amateur: Shen-Su Chang, 6D (Taiwan)

Computer Programs:
- MoGo, France
- Many Faces of Go, USA
- Fuego, Canada
- Zen, Japan
Reference


