

Agent Description of Camellia

0. Team Overview

Camellia Dragons (Agent Name: Camellia) is an AI and robotics project team at School of Information Science and Technology, Aichi Prefectural University, Japan. Our team is comprised of 10 students (undergraduate and graduate) and one faculty. We participated in the AIWolf Competition from this year.

1. Agent Overview

Our agent has adopted a heuristic rule-based approach. Basically, our agent is built from the tutorial. So, if you follow the tutorial (c.f. <http://aiwolf.org/howtowagent>), you should be able to get it working. In the next competition, we are going to aim to improve the agent using some machine learning techniques.

- Language: Java
- Environment: Eclipse

2. Explanation of each role

2.1. VILLAGER

In addition to the basic conversation and rule-based estimation of werewolves, the "Estimated degree of Werewolf" implemented in the Seer is added.

2.2. BODYGUARD

In the Bodyguard role, choosing a guard target is important. The guard target is determined by the priority of the guard, depending on the situation, such as a GuardRequest or success of the guard.

2.3. SEER

The Seer is the most important role for the villagers' camp and can help the game advance by finding the Werewolves. We have implemented "Estimated degree of Werewolf" to effectively fortune the player who is a Werewolf among the participants. The "Estimated degree of Werewolf" is based on a priori knowledge of the player's way of thinking in a human's werewolf game, and is calculated as the probability that the player is a Werewolf from the frequency of the participants' remarks and the act of multiple people suspecting a specific player (c.f. Section 3).

2.4. MEDIUM

In werewolf games, several Seers frequently appear. Therefore, the general theory is to protect the Medium, not the Seer. So, they made the statement 'I want you to protect the Medium' and urged you to protect the Medium.

2.5. WEREWOLF

The Werewolf changes the target of an attack. If the attack fails the day before, there is a high possibility that the Bodyguard will guard the same attack target the next day, so it changes the attack target from the previous day in consideration of the agents who come out and the remaining number of people.

2.6. POSSESSED

The Possessed pretend the other role. For example, when it pretends the Seer, it will tell the fake divination result once a day.

3. Estimated degree of Werewolf

Guessing who a Werewolf is important in werewolf games. Therefore, we have developed the "Estimated degree of Werewolf" to estimate the werewolf to the Seer. For the seer, predicting agents with a high "Estimated degree of Werewolf" increases the probability of predicting the real werewolf and gives the advantage in the game. The "Estimated degree of Werewolf" ranges from 0 (default: definitely not a werewolf) to 1 (definitely a werewolf). It is updated according to the following table (Table 1).

Table 1 Estimated degree of Werewolf

Act	Point	Explanation
COMINGOUT Seer	+0.80	If I am the seer, I consider it more likely to be a werewolf because other agents who deceive the seer are lying.
ESTIMATE Me WEREWOLF or POSSESSED	+0.30	An agent who is suspicious of me is a threat to me.
ESTIMATE false Seer VILLAGER or SEER	+0.30	An agent defending the false seer who may be the werewolf could also be the werewolf.
Aggressive advocacy of certain agent	+0.10	If you are actively defending a particular agent, it is possible that the werewolf is defending the werewolf.
Silent	+0.05	Agents who don't say much are suspicious.