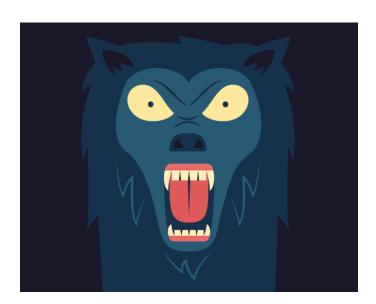# Agent Description of
Viking

Team name: Vikings

1. Introduction

Agent "Viking" (Team name: "Vikings") will be participating for the first time in the 3rd International AIWolf Contest. The agent is specifically designed for a 15 player game but also plays 5 player games brightly. I, Mohiuddeen Khan, has developed this agent and I am currently pursuing my bachelor of technology in computer engineering at the Aligarh Muslim University, India.

2. Programming and resources

The agent is developed following the help of the youtube tutorial: https://bit.ly/2SdvdF4

The code for Viking can be found at: https://github.com/mohikhan/Viking-AI-Wolf

The agent is built in python with Viking.py as the script file and a separate file for every role.

3. Strategy

The agent follows different strategies for different roles. The strategies are made considering the unique role of each agent in the game. The programming for each specific role is done in a way considering the various powers each role has in the game. For example: with seer we can divine any player, and if the player comes out to be a werewolf, we will try our best to eliminate him.

The motivation and strategies for different roles are as follows:-

3.1 WEREWOLF

Motivation: The werewolf is the protagonist of the game. The werewolf has been programmed considering the fact that I have to lie in a way such that I can gain the confidence of the villagers. Following this I implemented two strategies one of which is used to gain confidence by coming out as a seer.

Strategy: The werewolf has two choices in selecting the strategy for each game. The strategy is randomly chosen and is followed for that whole game. In the first strategy, the werewolf pretends to be a seer and divines the most hated agent every day at a specific talk number(4th talk in our game). It tries to eliminate the most hated agent calculated from the talks. For the second strategy, the werewolf behaves normally and votes for the most hated agent calculated from the talk patterns.

3.2 BODYGUARD

Motivation: The bodyguard in the game can guard the agent of his choice, due to this power, I have programmed the bodyguard to identify the agent who is most friendly to him by calculating vulnerability score. I also tried to identify the other roles with powers (seer and medium) as saving them can increase the chances of winning for the villagers team. I also made sure a hostile agent never gets guarded.

Strategy: The bodyguard calculates the vulnerability scores of the agents who are most likely to be attacked by wolves and who are most friendly to him by using talk patterns(for ex: if someone divines me as a human then i will consider him friendly) then he guards the agent with the maximum vulnerability score. The bodyguard votes for the most hated agent calculated using hostile talk patterns. The bodyguard also prevents guarding the hostile agents by giving them a negative vulnerability score.

3.3 VILLAGER

Motivation: As the villager is the role with no special power in the game, so I have programmed the villager to use very basic rules and thus eliminate the agent with the most hate value.

Strategy: The villager follows basic strategies by identifying the most hated agent using hostile talk patterns and votes for the most hated agent.

3.4 POSSESSED

Motivation: The possessed also has no special power except that he is in the werewolf team. For the possessed I have made 2 strategies out of which one will be selected in each game. I made two strategies thinking that if either of them fails for some agent, the second strategy may work well against that agent.

Strategy: In the first strategy the possessed will come out as a seer on day one and he will return positive sentences in the talk phase to make the most hated agent consider him as a friendly agent (ex. if someone says that I am a werewolf then I will divine him as a human). However, at the end of the day the possessed will vote for the most hated agent identified from the talk patterns. For strategy two, the possessed will simply try to eliminate the most hated agent using hostile talk patterns.

3.5 SEER

Motivation: The seer has a special power of "divination" using which he can tell the role of a particular agent. Following this special power, I made the seer use this power to remove the werewolf team members. Also, in the AI werewolf competition only one seer is allowed in the game so I also try to remove any other seer because he is definitely lying about his role.

Strategy: The seer tries to eliminate any other agent who identifies himself as a seer using talk patterns. The seer divines the most hated agent everyday and reduces the hate score if the result of divination comes out as a human. If the result of divination comes out as a werewolf then the hate score is increased for that agent. The seer comes out as a seer every day in the starting and normally increases the hate score of the agents using hostile talk patterns.

3.6 MEDIUM

Motivation: The medium also has a special power to ascertain the role of the agent who died in the previous day. Considering this, I have not made the agent complex as nothing special can be done with the history of the dead.

Strategy: The medium follows basic strategies to vote for other agents and tries to find out the agent who acts as a medium using talk patterns and votes for them. The agent comes out as a medium on the first day and first sentence of the game to gain the confidence of the villagers. The agent does not track the dead role as very little useful information can be drawn from it.