

In the demonstrations, each red point denotes each Group A's agent, each blue point denotes each Group B's agent, and each green point denotes each static target of Group B.

Group A employ GPFNN and Group B's agents position information to output the policy. The mission of group A is to catch the agents of Group B (blue points). Group B employ GPFNN with Group A's agents position information, and the static targets' (green points) position information to output the policy. The mission of group B is to catch the static targets' (green points) while not been caught by Group A.

In the demo of 10 agents on the 129x129-sized maze, group B (blue) first catches all the static targets (green) and wins the game. In the demo of 20 agents, 50 agents, and 100 agents case on the 129x129-sized maze, group A (red) first catches all Group B's agents (blue) and wins the game. In the demo of 500 agents on the 401x401-sized maze, group A (red) first catches all Group B's agents (blue) and wins the game. From these demos, we can see that for the dense agents' cases, Group A has more advantage than Group B because Group A can remove Group B's agents during the game process, but Group B cannot remove Group A's agents. For the sparse agents' case, Group B with GPFNN still has a chance to win Group A with GPFNN, e.g., 10 agents case. More interestingly, we can observe Group A's team behavior in that agents cooperatively besiege Group B's agents from different roads(directions) on the mazes instead of performing catching individually as a queue.