Miracle2017: Team Description Paper

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Abstract. Hefei Normal University Miracle 2D simulation robot soccer   team was found in July, 2009. We have been actively participating in China Opensince 2009 and Iran Open since 2015, we have made some achievements. This year we focus on log mining to apply to our offensive model, this year we have made a change in the offensive pass strategy.

1 Introduction

Miracle 2D Simulated Soccer Team was found in 2009 and affiliated to the Computer Department of HeFei Normal University, China. Since established, we have participated in RoboCup China Open seven times and RoboCup Iran Open twice. Among them, we have achieved the seventh place in RoboCup China Open2011, the champion in Robot Competition of Anhui Province in 2014 and the champion in RoboCup Iran Open2015, the fourth place in RoboCup China Open2015, and the second place in Robot Competition of Anhui Province in2015. The second place in Iran Open2016, and the second place in Robot Competition of Anhui Province in2016. In RoboCup China open2017 second, and in Iran open2017 won the title.

The team source code is based on the Agent2D-Base with version 3.1.0[1].,and fragments of released source code of Marlik2012[2] and Helios2008[3]. For all these, giving thanks to Hidehisa AKIYAMA and all other related open source developers that our team can achieve such achievements within these years.

2 Strategy and Formations

For a team, the formation is also very important. I believe that attack is the best defense. Compared with our previous changes in offensive formation, we have increased aggressiveness. When attacking, they are always less than many, which is very difficult. Therefore, in order to attack more, we should allow more players to play in the midfield, but we also need to think about defense. Our No.4 and No.5 even though we have played the midfield, but will not go too far, so that we can quickly defend.
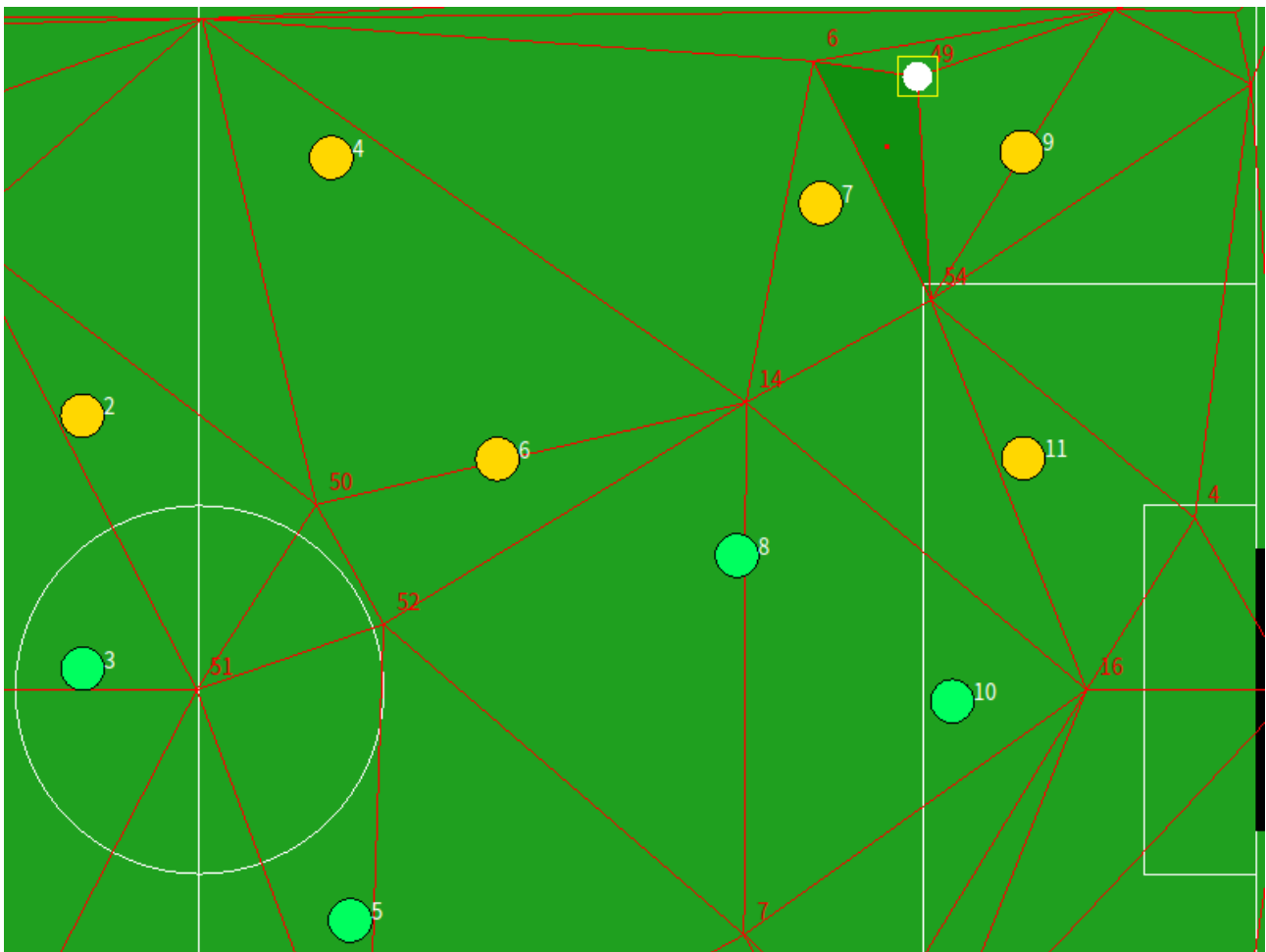

Fig.1. At the time of competition, No. 9 player dribbling attack is very easy to be intercepted by the other side, and the location of No. 7 is just the dead corner of passing. So in this case, our 4 player can play an intermediate bridge's role to make the ball alive.

3 Improvement of long pass

After a lot of games, we found that only a long pass can make the attack more fast, but we also found some problems in the long pass. There is a certain error in the direction of passing, which leads to the failure of passing, and the error of passing direction is inevitable. Then we will improve it from the catcher. We calculate the best catch point of catching person by similar triangle.
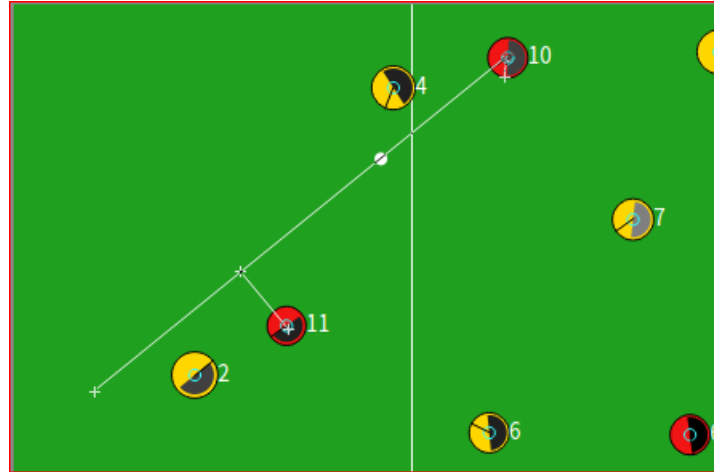

Fig.2. No. 10 near enemy players have 4 players, if dribbling into very likely to be intercepted, so No. 10 to No. 11 player direction pass, pass direction is obviously not the No. 11 player, the No. 11 is the best way to get the ball to the ball along the vertical direction of movement to the point of intersection, so as to ensure the ball is safe and labor-saving, the ball rate is much higher than before.

4 conclusion

This paper describes the current efforts of miracle2018.We strengthen the control of the ball, take the offensive instead of defense, and reduce the chances of making mistakes. In the future, we will spend more time on deep learning about agent and try to use a coach in a game.

References

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