We're thrilled to announce the successful completion of our first in-house project - an autonomous referee. This project is about designing an autonomous referee for soccer robots which helps human referees in decision making process. Each year, MSD trainees make some contributions to this project and this year we succeeded in designing an algorithm for checking set piece. Set piece includes situations such as corner kicks, free kicks, and penalty kicks, where the game is temporarily stopped to allow players to set up in a specific formation or position. Any violation regarding teams positioning can be detected by the auto-ref and will be penalized. Corner kick set piece includes:

* The referee gives a “corner kick” signal.
* The robot of the attacking team that is taking the kick is positioned at the ball.
* All other players of the corner kick awarded team can stay anywhere on the field except in a circle with a radius of 2m around the ball until the ball is in play.
* All players of the opponent team can stay anywhere on the field except in a circle with a radius of 3m around the ball until the ball is in play.

We're proud to share our final simulation video with you and invite you to check out our GitHub page for more information. Thanks for your continued support!

GitHub link:

[ElhamHonarvar/Auto-Referee(github.com)](https://github.com/ElhamHonarvar/Auto-Referee)