

Goalkeeper Strategies For A Virtual Football Robot

RESEARCH

What are the most effective methods for the goalkeeper to save a shot at the goal? Focus on:

- Goalkeeper positioning
- Teamwork with defenders

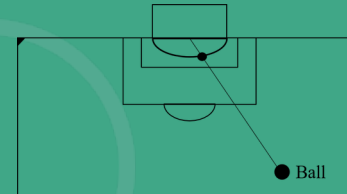
METHOD

Thorough research of AI World Cup framework to assess capabilities and limitations of players.

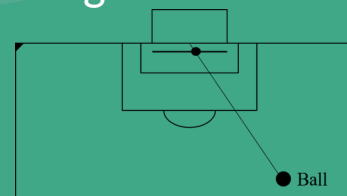
Research goalkeeper strategies of both real-life and virtual players.

SOLUTION

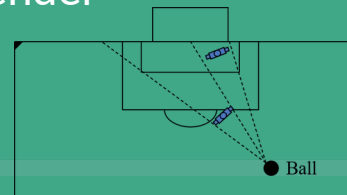
Creation of an 'arc goalkeeper', which positions itself on an arc in front of the goal.



Creation of a 'line goalkeeper', which positions itself on a straight line in front of the goal.



Creation of teamwork between goalkeeper and defender



RESULTS

Both the arc and the line goalkeeper have a better coverage of the goal than the widely used benchmark goalkeeper.

	Save Rate	Mean Zone Value
Basic GK	38.4%	-0.07702 (0.424494)
Arc GK	42%	-0.3572 (0.34951)
Line GK	48.6%	-0.21676 (0.39726)

The use of teamwork shows an improvement in performance.

	Save Rate
Line GK	57%
Line GK with teamwork	72%

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