

2030 FIFA World Cup: Ten Open Proposals for “Major Reform” of FIFA Methods for More Excellence

Ranjit Biswas^{1,2,3,4,*}

¹Department of Computer Science & Engineering

²Faculty of Engineering & Technology

³Jamia Hamdard University

⁴Hamdard Nagar, New Delhi – 110062, India

*Corresponding author: ranjitbiswas@yahoo.com

Received July 07, 2026; Revised August 09, 2026; Accepted August 17, 2026

Abstract Considering our next **FIFA 2030 World Cup**, this research work presents ten open proposals for “Major Reform” of FIFA Theories, Methods & Systems, and a proposal to open a **Fuzzy Training College**. FIFA implemented huge amount of Technologies, a number of Devices & Cameras in World Cup 2026 for better Refereeing System, but all of these summarily can be nullified using Intelligent Robot Referees, using the CONCEPT of “**Outside Referees System at the FIFA Server Room**” which was FIRST TIME proposed officially to both FIFA and IFAB in **2014** in CESFM Method, and also using the AI-based CFE Method of Evaluation replacing the existing practiced “Too Obsolete Evaluation Method of Winner followed by FIFA”. Ten open proposals for “Major Reform” of FIFA are proposed in this work in pursuance of more excellence in **2030 FIFA World Cup** and in all future World Cup tournaments. The proposal for 2030 World Cup are presented mainly in the areas like : better ERS, better Refereeing System (RS) and better evaluation method of the true winner (better performer), with minimal amount of technologies and without any cameras outside. In AI-based CFE Method the corresponding football Software are executed by the Outside Referees System at the FIFA Server Room (RSFSR) using an excellent AI-based CFE software which is to be executed on “continuous basis” during real instant of the match playing time, an also by executing the other supporting software, in a high-speed processor(s). The introduction of three Robot Referees (flying drone Referees) in CFE is also the first time proposal to FIFA in 2014, which is an excellent concept for implementation during CFE software execution. The proposed AI-based CFE Method with additional Outside Referees System at the FIFA Server Room (RSFSR) can eradicate all the loopholes of the existing practiced obsolete “Evaluation Method” of FIFA. No camera like VAR is needed in the AI-based CFE Method. In fact the huge amount Technology, Devices & Cameras implemented in FIFA 2026 World Cup (for better Refereeing System) can be summarily nullified using Intelligent Robot Referees proposed to FIFA in 2014. A comparison study of the AI-based CFE Method and the presently followed obsolete FIFA Method for evaluation of football games is done in a table. The sole objective of this research work is to provide more and more justice to the four(4) “psychologically highly living objects” like : (i) Football Science (ii) Football Games (iii) Football Fans and (iv) both the teams at the end of a match, in particular providing huge justice to the Looser team. And all these objectives can be achieved only by AI-based CFE Method with intelligent Robot Referees to support RSFSR proposed very precisely with several examples to FIFA in 2014. The year **2014** is the “**landmark year**” in Football history because of mainly two reasons: application of fuzzy theory in football games **first time** proposed to both FIFA and IFAB in 2014 and the ‘concept’ of outside Refereeing System **first time** proposed to both FIFA and IFAB in 2014, as justified in details in this work, supported by ANNEXURE-1, ANNEXURE-2 & ANNEXURE-3.

Keywords: RSFSR, ERS, ER, ECM, FIFA Server Room, CESFM, CFE, CFE-software, Fuzzy Parameter, Fuzzy data, Fuzzy Pocket Machine, CS-Score, Robot Referee, TCFE, CPS, VAR

Cite This Article: Ranjit Biswas, “2030 FIFA World Cup: Ten Open Proposals for “Major Reform” of FIFA Methods for More Excellence.” *American Journal of Sports Science and Medicine*, vol. 14, no. 2 (2026): 21-33. doi: 10.12691/ajssm-14-2-1.

1. Introduction

This work is initiated in pursuance of more Excellence by FIFA in the 2030 World Cup and future World Cups.

Some part of this work is sequel to our earlier works reported in [1,2,3]. With a lot of enjoyment, the world has just concluded the 2026 World Cup, and now our focus is on **2030 World Cup**. FIFA is improving each time to offer better and better Refereeing System. FIFA has been really trying very hard for excellent results, in particular

during last 8-10 years very significantly, and the FIFA achievements during last 8-10 years are beyond imagination, which never happened in so much dynamics in earlier years.

The first official international football (soccer) game was played in 1872 between Scotland and England at Hamilton Crescent in Partick in Scotland (see [4] for football history). The match result at the end was a 0-0 draw, and this match is recognized by FIFA as the first international football match. One could see the interesting book [5] to know about the history of football. However, the roots of the Football sport can be traced back much further.

The work here is basically based upon the rigorous research work reported in 2018 in the book [2] on a new advanced excellent AI method of "Refereeing System" & "Evaluation" of FIFA Football games in this century. With no loss of generality and clarity, let us use the abbreviated word RSFSR (as used in [3]) to represent the phrase **Outside "Referees System at the FIFA Server Room"** which was FIRST TIME proposed by the author to both FIFA and IFAB in 2014 by submission of the content of CESFM by email, in 2015 by email, by a published work [1] in 2015, in 2016 by email and then in 2018 by the book [2]. The work in the book [2] is in fact an extension of the CESFM. The concept of Outside Referee System proposed in 2014 was for working on FIFA Server with a special AI-based football evaluation software which is called CESFM software for CESFM Method, and is called by CFE Software for the proposed CFE Method. Although CESFM used Outside refereeing system (FIFA server), but CESFM algorithm and method is not for the complete 90 minutes play. With the help of Outside refereeing (at FIFA Server), CESFM algorithm was proposed in 2014 for **tie cases only**. Consequently, with the same concept of Outside refereeing system (Outside FIFA Server system) the CFE method was proposed to FIFA in 2018 for the evaluation of the **complete 90 minutes of play**. Although the "concept" of FIFA's VAR system implemented in FIFA 2022 World Cup happens to be same as the "concept" we proposed to both FIFA and IFAB in 2014, in 2015, in 2016 and then in 2018 (also by sending information to FIFA by few emails about the book published in by Springer), nevertheless the author slightly feel that FIFA may have made this concept independently by its own thought without paying any attention or reading of our continuous submission of it to both FIFA and IFAB since 2014. This slight doubt is because of the reason that nowhere in any of the FIFA/IFAB documents [7,8,9,10,11,12] regarding VAR or others, the submission of the "concept" of 2014 of the author is acknowledged. This revolutionary "Concept" of the author never happened in Football in the century of years before 2014, but will continue to be followed by FIFA in the next centuries after 2014, the year 2014 is the **Landmark Year** in this sense. Anyway, our objective is how to improve the overall FIFA system in this era of AI for future World Cups.

It is observed in FIFA 2026 World Cup that FIFA is improving in ERS, compared to whatever observed in 2022 FIFA World Cup or earlier World Cups. But still VAR of FIFA 2026 World Cup is not upto the mark compared to RSFSR that we proposed since 2014. In 2026

FIFA World Cup matches, there are few new powers for the VAR observed. These powers are mostly of punishment type, but good for Football. The **gravity of each of these punishment are fuzzy quantities and can never and never be precisely quantified without using Soft-computing mathematics and AI methods. These quantities are to be thoroughly studied and to be thoroughly revised** with the help of top football experts, including experts from the following areas mainly:

Sports Science, Psychology, Behavioral Science (Psychiatry), Medical Science, Physiotherapists, etc.

The gravity of each of these punishment must be optimal (neither more nor less), and only a team of experts in all the above areas can do an excellent group-decision making. Otherwise, in a very silent way and unknowingly, the "Football Science" as a subject of study may become compromised. The Optimality needs to be computed by FIFA using Fuzzy Optimization Techniques because besides the correct design of Fuzzy Objective Functions, the most of the data involved here are linguistic data of fuzzy nature, not crisp nature.

Some of the good and newly introduced powers (almost a type of punishment) of VAR introduced in the 2026 FIFA World Cup matches are like:-

- (i) Countdowns for goal-kicks and throw-ins (five seconds)
- (ii) Time-limited substitutions (10 seconds)
- (iii) If Physio is on, then players must now stay off for one minute
- (iv) about goalkeeper tactical timeouts
- (v) Player covers their mouth in a confrontational situation: referee can send the player off.
- (vi) Player leaves the field to protest a referee's decision: The referee can also now show a red card.

But evaluation of these situations can be much better dealt, if the concept of intelligent **Robot Referee** (flying drone), as proposed in our CFE Method, be implemented in future FIFA matches, in 2030 World Cup and all future World Cups) without committing further delay in initiation. Since the year of the first time proposal to FIFA/IFAB made in 2014, some amount of beginning of the core objectives of 2014 RSFSR system seems to have done by introducing VAR (see official VAR Protocol document of FIFA/IFAB). As mentioned in the book [2], an intelligent Robot Referee is a type of flying drone which work for continuous AI-based CFE software on the basis of continuous input data from the referees and other sources.

In 2026 FIFA World Cup, there is no improvement observed in ECM and the proposed CFE Method was not followed. Unfortunately, FIFA has been following the one and only one single data which is the final goal score (say 1-0) to declare the Winner by one and only one discrete data, the logic which is "too obsolete" in this AI-era of this century. Hope FIFA will follow the AI-based CFE Method in **2030 FIFA World Cup** in in all other future World Cups for evaluation of the winner of a match by continuous real time data of 90 minutes as proposed in CFE Method [2]. However, the 2026 FIFA World Cup introduces new ERS & technology, deploying AI, "Ref Cams," and 3D data modeling to enhance accuracy and transparency. These systems speed up officiating decisions and provide both referees and teams with

unprecedented evaluation tools. But the big demerits of these implementation are the following:-

- (i) FIFA used a large number of cameras in 2026 World Cup, which are fixed outside the ground field. No camera can move, can enter into the ground physically.
- (ii) the cameras are not mutually friendly, because they are neither mutually interlinked nor mutually communicable but all these cameras just transmit reports **independently** to the FIFA Server Room (RSFSR).
- (iii) the cameras do not have any soft-brain to do some amount of computations or executions locally and independently.
- (iv) to cover the complete area of the playground, FIFA installed so many cameras. Nevertheless they together even can not cover 360 degree of the region.

The above ERS used in 2026 FIFA World Cup are just somehow some solution done by FIFA. All the above demerits are in-built solved in our proposed AI-based CFE Method, because of the excellent capabilities of Robot Referees each of which, just as one single entity, can do a lot of jobs including all the above stated VAR jobs done by a large number of cameras. Out of these cameras, no camera can itself process any amount of processing or computing except communicating to outside Referees of VAR. In our CFE Method, **not a single outside camera is required** in football matches as each of the three intelligent Robot Referees themselves can see 360 degree around and it has a soft-brain inbuilt inside, which can do parallel processing. See the functions of a Robot Referee mentioned in the Section-3 below.

Each and every item of the technology implementation in 2026 World Cup by FIFA can be easily done by CFE Method with Robot Referees with very less complexity of technologies. In fact these are much-a-do by FIFA with huge technology involvement which is not optimal at all in overall sense, and all these good objectives can be easily implemented if CFE Method with Robot Referees and Outside Referee system (RSFSR) be completely adopted, instead of doing partial exercise. For few examples, consider the following three points:-

No.1

Enhanced Semi-Automated Offside Technology (SAOT) implemented by FIFA in 2026 is a very easy job of a Robot Referee due to its beautiful in-built brain & architecture. So much do by FIFA is not required.

No.2

Referee Body Cameras (Ref Cam), at all, not required in the CFE Method using the Robot Referee due to its own beautiful in-built intelligent brain & processor.

No.3

3D Player Avatars can be summarily rejected because its objective is well met in the CFE Method using the Robot Referee due to its beautiful in-built intelligent brain & processor architecture.

Regarding the implementation of “Connected Smart Match Ball”, the scientifically big demerit will be clear if we carefully listen to the voice of the ‘complete volume of air’ trapped inside the ball. The air inside the ball is saying that: **I am not in a spherical shape inside the ball, please do not ignore the shape of my volume at least.**

Even if you use some kind of Physics and technology to try to keep the ball balanced from outside, a non-spherical air pocket or uneven air distribution can disturb the balance of a football, causing it to wobble, curve unpredictably, in particular when it be in a high speed flying mode. Most dangerous point is that the amount of balance will continuously vary (could be even by nano amount, if not more, **which was purely nil** in the cases of earlier non-technology balls) during play time. In Robot Refereeing method such kind of “Connected Smart Match Ball” is not required at all, because the objective will be 100% achieved in Robot Refereeing (as every Robot Referee has its own in-built intelligent brain & architecture, see Section-3 below). The implementation of “Connected Smart Match Ball” by FIFA is ‘much-a-do’ about nothing. Because, the purpose is 100% auto in-built solved in our proposed Robot Refereeing system (see the functionalities of Robot Referee mentioned in subsection 4.2.1 above). The huge amount of technology adopted by FIFA in 2026 can be reduced by almost 100% if FIFA adopts the AI-based CFE Method using the proposed Robot Referees and RSFSR. The ‘objectives’ of FIFA for adopting these amount of technologies are excellent, but adoption of so much technologies is certainly “much-a-do”. Although FIFA has been conducting conferences, but the author feels that FIFA must do more regular international conferences inviting Top technology experts and football experts, before approaching any company or industry for such huge amount of technologies, devices, cameras etc. And only then, the optimal decision making and planning about the necessity of adopting technologies can be successfully done, because all the objectives of FIFA (regarding 2026 FIFA World Cup matches) are in-built met and solved in the AI-based CFE Method where Robot Referee system is proposed (proposed in 2014).

However, in the next sections, let us recollect the main key point about ECM reported in the book [2] in 2018, called by AI-based **CFE Method** (Continuous Fuzzy Evaluation Method). Remember that it is not just about excellent Refereeing method, but also about: How to compute the “better performer team” and hence the “True Winner” team of a match.

2. About the Three Most Important Factors Which FIFA/IFAB Needs for Achieving More Excellence in World Cup 2030

First of all let us have a quick visit to our recent work reported in [3] before going for further analysis. The three most important factors FIFA/IFAB needs to have for excellence are **ERS**, **ER** and **ECM**, which are as follows:-

No.1. Excellent Refereeing System (ERS) (it is the Theory part of Referee System)

No.2. Excellent Refereeing (ER)

(to be delivered by the Referees in practical on the field (may be alternatively called by ERS-Lab) during each match, by excellent implementation of ERS)

No.3. Excellent Computing Method (ECM)

(to compute the “better performer team” and thus to compute the “True Winner” team of a match).

The ERS is about the excellent THEORY on ER, where ER is like a Lab where PRACTICAL implementation of the ERS Theory is expected to be successfully implemented on the ground reality (i.e. Lab). Every referee must follow the ERS for ER on the ground reality. The latest official VAR PROTOCOL of FIFA is just a beginning of ERS, it is just few steps towards the beginning of our proposal of RSFSR submitted to both FIFA and IFAB since 2014.

3. Characteristics of the Intelligent Robot Referee

Let us recapitulate about the Characteristics of the three intelligent Robot Referees (see [3,2,1]) including two **Linemen**. The Robot Referee proposed for the AI-based CFE Method is such a drone:-

- (i) which can fly in higher speed of the speed of a kicked ball and can land on the ground to function like our traditional classical human Referees. It is of reasonable weight, light weight. *(The Brazilian midfielder Ronny Heberson had a striking speed measured at approximately 210.9 km/hr, so far the highest speed observed in football history).*
- (ii) which can see around 360 degree very easily, both in horizontal and vertical directions by its multiple eyes. And can twist its body freely even during its flying period.
- (iii) which does always move keeping itself at a very close proximity of the ball during play time, which is not possible by so many cameras used in FIFA 2026 matches. Consequently, in Robot Refereeing there is no chance of any wrong showing of Red Card or Yellow Card to any player, which probably happened in 2026 World Cup.
- (iv) no chance at all of any collision of it with the ball or with any player during play time.
- (v) can reach on the top of the goal post, if required for refereeing, before the kicked ball makes a goal. Can easily do refereeing about whether it is a goal or an offside or a foul etc.
- (vi) it has a powerful and intelligent soft-brain which can be easily well trained with ESR, ECM and all the FIFA/IFAB rules every year according to requirements of FIFA to deliver ER at the ground reality and to communicate the Outside Referee (RSFSR) and vice-versa for continuous fuzzy evaluation by CFE Method.
- (vii) its brain is capable of doing soft-computing locally besides crisp computing, and it will be always in both-way communication with RSFSR in a continuous manner.
- (viii) it can do parallel processing of several jobs for doing ER and for supporting ECM in RSFSR room of FIFA.
- (ix) can be easily deployed such type of sophisticated fast running intelligent robots inside and outside the

field as Referees (including line Referees), and

- (a) having ‘both ways’ very fast wireless silent communication and conference among the robots, and
- (b) having ‘both ways’ very fast wireless silent communication of all the robots with the FIFA-server, and
- (c) having very fast processing power of video images, having the facility of video conferencing with peer robots on duty, etc.

One great advantage of using Robot Referees (intelligent referees) is that replacement of one Referee during playtime does not effect the future intelligent decisions arising due to change in Referee. Any two Robot Referees will be exactly equally intelligent, exactly equally talented, exactly equally knowledgeable, unlike the case of two human beings (two human Referees). Today is the day of advanced technology in AI, Data Science, AI-mathematics, Fuzzy Theory, Soft-computing, ... etc in this century. An AI-based Robot Referee can be even developed by a team of UG college students of engineering branches, and it can be easily made learned & trained of latest ESR as well as ECM, and of all the FIFA/IFAB rules. Certainly the proposed AI Robot Referee will not be costly, rather cost effective. **However, FIFA has to be very careful so that from the side of few naughty fans or few outside crowd, there should not be any jammer to disable the Intelligent AI Robot Referee during play time. For this, the AI-based intelligent Robot Referee may be protected by two level passwords by FIFA or by some other ways.**

4. An Analysis on: Why the Evaluation Method followed by FIFA to find the “Winner” of a Football Match is ‘too Obsolete’ Today?

The Evaluation Method followed by FIFA to find the “Winner” of a Football Match is ‘too Obsolete’ today. The adjective “TOO OBSOLETE” is analyzed below by providing sufficient justifications from [2]. Consider the following points which were already reported earlier in 2018 in the book [2].

The main problem of the present football is that sometimes the ‘actual better performed team’ does not become ‘Winner’ at the end of 90 minutes of the play or at the end of extra play or at the end of penalty shoot out play. In fact it is a frequent outcome in football games. This problem is identified after realizing the shocking hearts and frustration of football fans of the world lying hidden, silence and overlooked/ignored for so many years, and thus it is a long standing unsolved problem solved completely in AI-based CFE Method.

Football history says that in every FIFA World Cup so far, in every UEFA Euro Championship so far or in every big tournament, it can be observed that there happened many cases where the actually better team is finally happened to be declared as the ‘looser’ as per the existing FIFA(IFAB)/UEFA/EFL rules of declaring ‘Winner’ just on the basis of m-n goal score at the end of 90 minutes of

play. The existing FIFA(IFAB)/UEFA/EFL rules for evaluation of a match is so obsolete that it does not have any scope to judge the “better performer team” by any means of science and technology that is what FIFA adopted so far. In every match till 2026 World Cup, FIFA waits only for the one and only one data at the end of 90 minutes of play for declaring the ‘Winner’ or for going for ‘Extra Play’ and/or ‘Penalty Shootout’, etc. to find one team whom to be declared as the ‘Winner’.

For instance, consider the **UEFA Euro 2016** held in France from 10th June to 10th July 2016. On 10th July’2016, the Portuguese beat host France 1-0 in the final played at the Stade de France in Paris, managing a sudden extra-time goal, although during 90 minutes of play France showed **much superior quality** of football elements. Just at the end of this game, the emotional shocking outburst of France supporters at Paris roads are known to the world! In this Championship the greatest surprise is due to the fact that during their seven games in the tournament they managed to win just one match inside 90 minutes!. Portugal progressed from a weak looking Group F in third place after drawing their games with each of Hungary, Iceland and Austria. In the Round of 16, due to a tie of Portugal against Croatia the game went to extra-time after ending 0-0 before Ricardo Quaresma scored a winner in the 117th minute. In the next round of Portugal against Poland, penalties were needed after the game ended 1-1. The semi-final against Wales was the only game Portugal managed to win inside 90 minutes. And at the Stade de France in Paris against the host France the match, all too predictably, wasn’t settled in normal time. Besides all the draw cases within 90 minutes by Portuguese, there are many other draw cases too in each of : the Round of 16, the Quarter Final, the Semi Final, and the Final! of UEFA Euro 2016. In every UEFA Euro or in every World Cup or even in every football championship held in this world, **this particular type of tie-cases are very common** in the history. For example, scoreless draw of Brazil v Mexico in World Cup 2014 in First Stage Group-A at Estadio Castelao Fortaleza (Brazil) on 17th June’2014, Germany v Ghana 2-2 draw in World Cup 2014 in First Stage Group-G at Estadio Castelao

Fortaleza (Brazil) on 21st June’2014, etc. to list few out of many.

Such shocking decisions of the football games is several times happening:

(i) **NOT** due to any fault of the winner team or of the looser team,

(i i) **NOT** due to any fault of the FIFA or IFAB or UEFA or EFL officials,

(i i i) **NOT** due to any fault of the Referees,

(iv) **NOT** due to any fault of the fans/crowds,

(v) **NOT** due to any fault of the supporters,

(vi) **NOT** due to any fault of the stadium/field,

(vii) **NOT** due to any fault of the weather condition, etc but due to the **very Obsolete and Weak Evaluation Rules** of FIFA(IFAB) to declare a Winner.

This “too obsolete method” is used by FIFA in the evaluation method to find the “Winner” of a football match in the 2026 World Cup matches too. In fact there is **no element of computation** in the FIFA method to find the Winner, it is just a declaration by FIFA exclusively on the basis of the goal score m-n at the end of 90 minutes of play, to declare that “the team X is the winner” or “the team Y is the winner”. A complete solution of all possibilities of such type of problems is proposed to both FIFA and IFAB by submitting the excellent evaluation Method called by “AI-based CFE Method” reported in the book [2] in 2018.

In the CFE Method, the final goal score m-n of a match at the end is just one of the many important parameters to compute the “better performer team” and thus to compute the “True Winner” team of a match. Corresponding to all these parameters, the inputs of real time data from the ground are transmitted to RSFSR in a CONTINUOUS manner. The AI-based CFE method says that the final goal score m-n is an important data, but only one single discrete data and not sufficient to compute the “better performer team” and thus not sufficient to compute the “True Winner” team of a match. The computation method ECM must be by **continuous data** of 90 minutes!

A comparison in brief of the “AI-based CFE Method” vs “Too Obsolete FIFA Method” is presented below in the form of a table (see Table 1 below).

Table 1. Comparison of AI-based CFE Method and the “Too Obsolete Evaluation Method” of FIFA

Sr.No.	Evaluation by proposed AI-based CFE Method (see the book[2] for complete details)	Evaluation by FIFA Method till 2026 World Cup
1	It is a continuous Evaluation Method to compute the “Winner” of a football match. The word ‘CFE’ stands for “Continuous Fuzzy Evaluation” of football matches. It is an AI-based method using soft-computing techniques, based on Fuzzy Theory & Fuzzy Mathematics. All the algorithms of the CFE-software run on fuzzy data (and ofcourse on crisp data).	It is NOT a continuous evaluation method, and there is no element of ‘Computation’ to find the “Winner” of a match. Instead of Computation, it is just a ‘Declaration’ of the Winner.
2	The Winner is computed by execution of the CFE-software by high-speed Processor at the Outside FIFA Server Room (RSFSR) on the basis of several highly significant input data received continuously from the ground, out of which the p-q goal score at every moment of play is just one data. Obviously this particular input data (goal score data) at the beginning of the play is 0-0 to the Processor in RSFSR. Similarly almost all other input data (fuzzy or crisp data) at the beginning moment of the match are also zero.	The winner is declared (not computed) purely on the basis of one and only one single data which is the m-n goal score at the end of 90 minutes of play.
3	Most of the input data to the CFE software are fuzzy data (fuzzy numbers).	No fuzzy data or no concept of fuzziness used here. There is one and only one single crisp data which is the m-n goal score at the end of 90 minutes of play.
4	It is AI-based advanced method of evaluation of the better performer (winner). De-fuzzification wherever required is done by the CFE software itself.	There is no use, no scope for using AI.
5	The Ground Referee (be a human Referee or an intelligent Robot Referee) uses a machine called by Fuzzy Pocket Machine during his refereeing tenure in the 90 minutes of match.	Ground Referee uses whistle, his hands, etc.

6	Out of so many Parameters involved in the continuous evaluation of Winner in the AI-based CFE Method, some of them are termed as Positive parameters and some of them are termed as Negative parameters, common for both the teams. For example, 'any Foul' be it a normal foul or an Yellow card or a Red card foul, is a Negative parameter. Every Foul has an amount of gravity which is a fuzzy number or fuzzy quantity. Even two normal simple Fouls will have two different amounts of gravity which are also input data to the CFE Software. Any goal scored by a team (say Team-X) at a moment (say at the i th moment of time) caters to Positive Parameters of Team-X at that i th moment of time, but it does not cater to any Negative parameter of the Team-Y corresponding to this goal scored by team-X. See Section-14,15,16,19 in book[2] for more examples. The list of parameters are to be decided by FIFA, a tentative list is provided in [2].	No computation (and no AI activity) in FIFA Method. The winner is just declared, and purely on the basis of one and only one single data which is the m-n goal score at the end of 90 minutes of play.
7	Since CFE is a continuous evaluation method, the data values (mostly fuzzy data, imprecise data) of all the Positive parameters and Negative parameters of both X and Y go to RSFSR as input data to the Processor at every moment of time, starting from the 0th instant of play till the 90th minutes of play. And every moment the CFE-Software is continuously executed by the high-speed processor at RSFSR.	No computation (and no AI activity) in FIFA Method. The winner is just declared, purely on the basis of one and only one single data which is the m-n goal score at the end of 90 minutes of play.
8	At every moment of time, starting from the 0th instant of play till the 90th minutes of play, by virtue of all the Positive parameters, each of the two teams (Team-X and Team-Y) gains its independently earned score called by PCS(X) and PCS(Y).	No computation (and no AI activity) in FIFA Method. The winner is just declared, not computed.
9	At every moment of time, starting from the 0th instant of play till the 90th minutes of play, by virtue of all the Negative parameters, each of the two teams (Team-X and Team-Y) gains its independently earned score called by NCS(X) and NCS(Y).	No computation (and no AI activity) in FIFA Method. The winner is just declared, not computed.
10	At every moment of time, starting from the 0th instant of play till the 90th minutes of play, by virtue of all the Positive & Negative parameters, each of the two teams (Team-X and Team-Y) gains its independently earned CSE Score called by CS(X) and CS(Y).	No computation (and no AI activity) in FIFA Method. The winner is just declared, not computed.
11	The CFE Method mathematically integrates the continuous data (real time data about performance in each and every second of 90 minutes play) available from the playground, besides the data which is the goal score $x : y$ at every second, to compute the "CS Score" of the both the teams at the Outside FIFA-server at every one minute interval using the simple mathematical formula:- $CS(X) = 1000 + PCS(X) - NCS(X) \quad \text{and}$ $CS(Y) = 1000 + PCS(Y) - NCS(Y).$	There is computation (No computation (and no AI activity) in FIFA Method. The winner is just declared, not computed..
12	The 'Electronic Display Board' outside the playground displays the real time CS Score (including goal score) of both the team X and team Y at every instant of minute till the end of the game, so that the world fans including the 22 players on the field could be aware of the latest status of the game at every moment of time. At every moment, say at k th moment, the better performer team during the first k amount of time from the start of the play will have more CS Score. However at every moment the better team could change too (viz. at 12th minute of time the team X computed to be better, at 15th minute of time the team Y computed to be better, and so on, even if the goal score be 0-0 or 1-1 or...), because the AI-based CFE Method is a continuous evaluation method to compute the 'Better Performer' i.e. 'True Winner' unlike FIFA Method. CS Score is always computed correct upto three decimal places (without any rounding-off).	The Display Board shows only one data which is the "goals scored so far" by Team-X and Team-Y.
13	Finally at the end of 90th minute, the CFE Software gives the final output on the basis of the accumulated CS Scores earned by both the team to say "Who is the better performer today" and then the authority can declare "Who is the True Winner". The AI-based CFE Method provides huge justice, huge satisfaction to the world fans and also to both the team. For details of the statistic CS Score, PCS, NCS, etc one could see Section-12 in book [2].	There is no type of computation at all (and no AI activity) in FIFA Method. The winner is straightforward declared, not computed.
14	As per CFE Method, if a team X at the end of the game scores 1-0 against a team Y then there is no guarantee that the execution of CFE software will give the output "X is Winner & Y is Looser" in today's match. In this today's match, the CFE software will give output results in one of the following three forms:- (i) X is Winner, Y is Looser (ii) Y is Winner, X is Looser (iii) Draw, based on the basis of last individual CS Scores of X and Y both.	As per FIFA Method, declaration of the Winner is based on one and only one data at the 90th minute which is the goal score 1-0. FIFA will declare that team X is the winner today.
15	The last case(iii) above where the output result is "DRAW" after 90 minutes of play will be a very very rare case, even such a case may not happen in a century in the AI-based CFE Method!!! (For details, see carefully the TCFE in Section-14 and the CPS in Section-19 in the book[2]). It is because of the reason that the precision of the output result of the AI-based CFE software is always upto three (or more) decimal places. But mathematically, DRAW case is not a completely impossible case in CFE. The computing in the AI-based CFE Method is by Soft-computing, strongly based upon the powerful tools Fuzzy Theory. The very very low chance of DRAW cases in 90 minutes of play is due to the following strong mathematical reasons:- (i) CS Score of both the team X and Y are the output results of the execution of Fuzzy-Theory based CFE-software executed in a continuous manner in RSFSR by a high speed processor. (ii) the input data (be fuzzy data or crisp dataq) are real data of every moment of play collected at the RSFSR at every real instant of time during 90 minutes of play. (iii) CS Scores are always correct upto three decimal places.	In FIFA Method, the DRAW case is a very common in the 90 minutes of play. Even in World Cup 2026, it happened four times : Paraguay vs. Germany: Tied 1–1 after 120 minutes; Paraguay won 4–3 on penalties. Morocco vs. Netherlands: Tied 1–1 after 120 minutes; Morocco won 3–2 on penalties. Egypt vs. Australia: Tied 1–1 after 120 minutes; Egypt won 4–2 on penalties. Switzerland vs. Colombia: Tied 0–0 after 120 minutes; Switzerland won 4–3 on penalties.
16	Ranking of teams are done by the AI-based advanced CFE-Ranking method, unlike the existing ranking method practiced by FIFA. Refer to the ranking theory and a simple example presented in Section-21 in book [2], an open proposal to FIFA proposed in 2018.	Assuming that [6] is a reliable source, it is understood that FIFA ranks football teams using the FIFA/Coca-Cola World Ranking system, and/or Elo rating system which is based on the

One team (say team-X) as per FIFA rules may have won 18 matches in total, which is the highest in this tournament by any team. In our proposed AI-based CFE Method, it does not necessarily mean that team-X is the best team among all. Even it may happen that one team (say team-Y) may have scored 26 goals in total in this tournament, which is the highest in this tournament by any team. In our proposed AI-based CFE Method, it does not necessarily mean that team-Y is the best team among all. Even in our proposed CFE philosophy, the champion team (champion as per FIFA rule) may not sometimes happen to be of 1st Rank in the CFE-ranking. Ranking accuracy in CFE-Ranking is very high, because its all soft-computations are done using very precise numerical output results of CFE software which are correct upto three decimal places AI-based CFE Method of evaluation is an extremely flexible method because it can be improved in future if more powerful AI-mathematics takes birth in future. But the “Too Obsolete Evaluation Method” of FIFA is more than century years old.	SUM model. This method adds or subtracts points won or lost for each individual game rather than averaging points over a given time period. This Ranking method of FIFA is a weak method, because FIFA adopts purely crisp type of computation assuming that there is “no fuzziness” in the core parameters considered for ranking of football teams. Besides that, continuous evaluation results of CFE type are not considered in FIFA Ranking.
---	--

An Example:

In Section-15 in the book [2] a very interesting hypothetical example of CFE evaluation of a football match is presented. Nevertheless, consider a purely hypothetical minor example of a football match below, to understand further about the Too Obsolete Method of Evaluation of FIFA:-

Suppose that there is a 90-minutes football match today held between two teams ‘Team-X’ and ‘Team-Y’ of two countries.

At the end of the 90-minutes play, suppose that the following are some of the important data observed:

- (i) Team-X scores 1 goal and Team-Y scores nil(0) goal.
- (ii) Team-X commits 27 number of fouls but none of these 27 fouls are of red-card category, whereas Team-Y commits only one foul (neither of Red-card nor of Yellow-card category).
- (iii) Team-X commits 12 offsides, whereas Team-Y commits no offside during the 90 minutes of play.
- (iv) Team-X kicked ball outside the field 21 times (on right side and left side of the field), whereas Team-Y kicked ball outside the field 3 times (on right side and left side of the field).
- (v) Team-X could have entered into the area of the goal keeper of Team-Y only twice during the 90-minutes play, out of which the Team-X scores 1 goal. Whereas Team-Y entered into the area of the goal keeper of Team-X five times out of which 3 times were penalty kick due to foul. But Team-Y could not score any goal in 90 minutes.

In the above game, at the end of the 90-minutes of play, FIFA method will certainly declare that “Team-X is the Winner”. But the AI-based CFE Method software computes the “actual better-performer” today, and then gives output results in one of the following three forms:-

- (i) X is Winner, Y is Looser
- (ii) Y is Winner, X is Looser
- (iii) Draw

Even if the output result of CFE software does also say the same i.e “Team-X is the Winner”, then too we have to say that FIFA Method has done injustice to the “Football subject” as well as to the world’s “football fans”. But the “Football Science subject”, this “Football Game”, the

world’s “football fans” and both the teams will enjoy justice even if CFE says that “Team-X is the winner”. However, in reality, depending upon all the real time continuous data from the 90-minutes play of this match, there is alternative good possibility that the output of the execution of CFE software could be “Team-Y is the winner”. Here the Team-X has scored 1 goal, or it may also be true that one goal is somehow happened to be scored by Team-X. And unfortunately, with this single discrete data, FIFA has no other say except its traditional way of SAY that “Team X is the Winner”. This is the too obsolete style of decision making by FIFA to find out the Winner. Because of continuous evaluation and continuous execution of CFE Software in RSFSR, the AI-based CFE Method has the strong merit to provide huge justice to the “Football subject”, “Football Game”, “both the teams”, and the world’s “football fans”, **unlike FIFA Method.**

The output of The CFE Method is a huge improvement of the traditional too obsolete FIFA method to compute the “True Winner”. In fact, in the traditional FIFA method there is **no computation** or execution of data at all for the purpose of evaluation of the ‘better team’. Because FIFA consider a very much discrete data, one and only one data, which is “the final goal score 1-0 or m-n”. This is one and only one data for FIFA to declare who is the winner. This is the century old method FIFA has been following, in which FIFA makes only a kind of “DECLARATION” instead of any kind of COMPUTING or EXECUTION of any kind of software for computing the ‘better performer’.

Although in FIFA-method during the match time the Referees always perform in a ‘continuous’ manner in each and every match, but we are talking about the “Evaluation Method” of the True Winner followed by FIFA in our work here. FIFA Method is not a continuous evaluation method. It is too obsolete, because the work [2] justified by several examples that the best performer team does not always win as per existing practiced FIFA rules. Unfortunately till 2026 World Cup, FIFA followed the Old & Obsolete method, not the AI-based continuous evaluation method CFE as proposed in [2] in 2018. This work here is about submission of ten(10) open Proposals for “Major Reform” of FIFA-Methods in pursuance of more and more excellence in 2030 FIFA World Cup as well as in all future World Cups.

5. Ten OPEN Proposals for “Major Reform” of FIFA Methods/Systems in Pursuance of ‘more excellence’ in 2030 FIFA World Cup by FIFA

FIFA during last 8-10 years tried a lot by huge amount of dedicated hard work for excellent results of their methods and systems. The world never saw FIFA earlier (earlier to last 8-10 years) such a super-dynamic FIFA. The objective behind the genuine need of ‘Major Reform’ proposed here is “To convert/retain FIFA as the ever best Sports organization in the world”. The Theory of CFE does not change the rules of football game (except during the very rare case of CPS Play, if any), but it introduces a major changes and improvements in the evaluation method and in the method of arriving at the final decision.

The following ten(10) proposals are proposed hereby to FIFA in pursuance of more excellence in 2030 FIFA World Cup :-

Proposal-1

The very first need in this century of AI-era is that all the FIFA/IFAB officials (including all Hon’ble Members of BOD, TSC, FAP, TAP, AGM/ABM, ESO of IFAB) need to be aware of Zadeh’s Fuzzy Theory [5], Fuzzy Quantities, Fuzzy Numbers, Fuzzy Mathematics, AI & Soft-computing techniques to deliver excellent quality “decisions” while framing all future rules of Football games, so that more amount of justice can be given to ‘Football Science’ as a subject, and to all stake holders.

Proposal-2

All the FIFA/IFAB officials (including Hon’ble Members of BOD, TSC, FAP, TAP, AGM/ABM, ESO of IFAB) need to study the book [2] thoroughly and very carefully to understand the AI-based CFE Method which involves RSFSR and intelligent Robot Referees.

Proposal-3

The proposal in CFE Method for “double Goal Posts” at each of the two ends may be suspended initially, say for 2030 FIFA World Cup and 2034 FIFA World Cup, i.e to wait till CFE Method be clearly understood by FIFA, by IFAB and by the world football fans.

Proposal-4

Prior to 2030 World Cup, FIFA must conduct ten(10) or more trial matches during 2028-2029 with the implementation of new ESR, new ER and new ECM by AI-based CFE Method, which involves RSFSR and intelligent Robot Referees.

Proposal-5

As proposed to FIFA in the book [2] in 2018, FIFA needs to decide which Parameters (Positive Parameters and Negative Parameters) are to be considered for CFE Software. It is completely to be finalized by the decision of FIFA experts. The book [2] clearly says that new parameters can be added to the list and/or existing few parameters can be removed, time to time, by FIFA by its own decision only. All these works must start in 2026.

Proposal-6

The CFE Software, the intelligent software for the soft-brain of Robot Referees, and all other related software need to be developed by the expert software-developers of FIFA in the FIFA Computer Centre. Three Algorithms

Algo-1, Algo-2 and Algo-3 for **De-fuzzification** need to be well coded (see the book [2]) by the expert software-developers of FIFA.

Proposal-7

All the FIFA experts and decision makers need to carefully study the characteristics and properties of “**Fuzzy Pocket Machine**” M for the Referee (be human Referee or Robot Referee) reading the book [2] thoroughly. The ‘**fuzzy pocket machine**’ M is an electronic wireless machine (looking like a mobile phone) having its own memory and keeps backup of all the fuzzy data as well as crisp data, whatever be communicated by the Referee to the database for the CFE-software at the Outside FIFA server RSFSR.

Proposal-8

All the FIFA experts and decision makers need to understand clearly “How to input fuzzy data or crisp data by the Referee using his machine M”, to understand clearly the Key architecture of the ‘fuzzy pocket machine’ M, to understand How to award a “Punishment Fuzzy Set” using the ‘fuzzy pocket machine’ M. FIFA needs to have a **Fuzzy Training College** to train all the Robot Referees, human Referees, all FIFA/IFAB staff and interested players about AI-based CFE Method, about all the algorithms and software.

Proposal-9

The intelligent Robot Referees as per the characteristics mentioned above in section-3 and the Fuzzy Pocket Machine (see [2]) need to be manufactured by some reliable company to be decided by FIFA.

Proposal-10

The Electronic Display Boards (special designed for football matches run by AI-based CFE Method) needs to be manufactured by some reliable company to be decided by FIFA as per specifications in book [2]. The Robot Referees & all intelligent machines may be made by China, without going for any tender-bids-system by FIFA.

6. Is the “Concept” of Outside Refereeing System in FIFA Server Room is an independently developed Concept of FIFA/IFAB by their own thoughts??

The “**CONCEPT**” of Outside Refereeing System in **FIFA Server Room** (RSFSR) was **FIRST TIME** proposed to both FIFA and IFAB in **2014** by submission of the CESFM Method by email, in 2015 by email, then by a published work [1] in 2015, in 2016 by email and then in 2018 by the book [2]. Consider the following five interesting points:-

Point(i)

Regarding the submission of the “**Concept**” of Outside Refereeing System in FIFA Server Room (RSFSR) **FIRST TIME** proposed to FIFA in **2014** by email sent. to the President(FIFA) and the Secretary(IFAB). See copy of his response in 2014 sent to the author, see **ANNEXURE-1** in this work

Point(ii)

Regarding the submission of this “**Concept**” proposed to FIFA in **2014** by email sent. to both the President(FIFA)

and the Secretary(IFAB). See copy of his response in 2014 sent to the author, see ANNEXURE-3 in this work

Point(iii)

The “**Concept**” of Outside Refereeing System in FIFA Server Room (RSFSR) is then also proposed to both FIFA and IFAB by submitting information and file about the published work [1] of 2015, published in the sports journal “**American Journal of Sports Science and Medicine**”, an Open Access journal.

Point(iv)

Regarding the submission of this “**Concept**” to both FIFA and IFAB by email in 2016, see copy of his response in 2016 sent to the author, see ANNEXURE-2 in this work

Point(v)

then also proposed to both FIFA and IFAB by submitting information by email about the published work in 2018 as a book [2] published by Springer.

The “**Concept**” of Outside Refereeing System in FIFA Server Room proposed to FIFA and IFAB both happens to be same as the FIFA’s “**Concept**” of VAR system. FIFA introduced the Video Assistant Referee (VAR) system during major testing in 2016, officially wrote it into the Laws of the Game on March 3, 2018, and used it at a global tournament for the FIRST TIME in the 2018 FIFA World Cup in Russia.

Although the “**Concept**” of Outside Refereeing System in FIFA Server Room was officially proposed to FIFA and IFAB both since the year 2014 and repeatedly, nevertheless the author slightly feels that FIFA/IFAB may have made the “**Concept**” of Outside Refereeing System in FIFA Server Room independently by their own thoughts (which they call by “VAR”) without paying any attention or any reading of the above five important Points [see Point(i) to Point(v) stated above]. This doubt raised in the honest mind of the author because of the reason that no-where in any of the official documents [7,8,9,10,11,12] of FIFA or IFAB, our submission of the “**Concept**” by email to FIFA/IFAB is acknowledged by them.

6.1. Why the Year 2014 is a “Landmark Year” in Football History?

The year 2014 is a “Landmark Year” in football history because of the following two(2) key reasons:

No.1

Fuzzy Theory is first time applied to the theories of Football Games in the year 2014, because many of the parameters in Refereeing System and Evaluation System are fuzzy parameters. The theories were first time reported to both FIFA and IFAB **in the year 2014**.

No.2

The “**Concept**” of Outside Refereeing System in FIFA Server Room is a revolutionary concept in Football history of Refereeing System because of the following three reasons, and considering the above mentioned five points Point(i) to Point(v):

(i) this “**Concept**” of the author was **FIRST TIME** submitted to both FIFA and IFAB **in 2014**.

(ii) this “**Concept**” never happened in Football games in the last century of years prior to **2014**,

(iii) but this “**Concept**” will surely continue to be followed by FIFA/IFAB in the next centuries of years in

all the football games after **2014**.

And thus the year 2014 is the ‘Landmark Year’ in the Football History so far, as the concept 2014 divides the complete football era into two disjoint parts:

- (i) NON-RSFSR era **before 2014**, and RSFSR era with Robot Referee (in Refereeing System) **after 2014**.
- (ii) Crisp Data era **before 2014** and Fuzzy era, in Evaluation System, **after 2014**.

Quite naturally, an obvious question arises: *Is the “**Concept**” of Outside Refereeing System in FIFA Server Room adopted by FIFA is an independently developed ‘Concept’ of FIFA/IFAB by their own thoughts??*

However, the author recollects that in Mathematics the revolutionary subject “**CALCULUS**” was developed by our great Newton and our great Leibniz both independently by their own independent thoughts. But during that time (about 400 years back from now), the tele-communication facilities, transportation facilities, printing facilities etc in the world were much backward and much slower than today’s status. Anyway, being a football researcher, the core objective of the author is different, which is to continuously strengthen FIFA/IFAB in pursuance of more and more excellence by FIFA in 2030 World Cup and in all future World Cups. The objective of the author is how to improve complete overall system of “**Football Science**” as an educational subject in the world in this era of AI, and for more and more excellence by FIFA in all future World Cup matches.

7. Conclusion

This work is about our thoughts for **2030 World Cup** and for all future World Cup. The AI-based CFE Method is a complete solution about the evaluation method of 90-minutes play to compute the ‘better performer’ of a match, and thus to compute the Winner of the match. The AI-based CFE Method (developed using RSFSR and intelligent Robot Referees, reported to both FIFA and IFAB in 2014) can provide true justice to the “football fans”, to the “football games”, to the subject “football science”, and last but not the least to “both the teams” in particular to the Looser team, by much more amount than today’s FIFA method, as justified in length in [2] and also by hypothetical examples in this work.

The VAR system strictly follows the official protocol established by the International Football Association Board (IFAB) in 2018. VAR happens to be just only one step (one beginning step) out of several steps proposed in RSFSR **in 2014**, as VAR considers only the videos for final decision without any use of the available present day advanced AI and fuzzy evaluation method & advanced soft-computing techniques. However, it is expected that FIFA/IFAB will have AI-experts in future to enter into the depth of the Fuzzy Theory to implement more of the RSFSR (proposed **first time** to FIFA in 2014) and the AI-based CFE Method. The so many new addition of subsystems by FIFA like VOR, OFR, etc and the new subsystems for video recording viz SAOT, GLT etc of VAR system adopted by FIFA/IFAB will become insignificant and unnecessary if the CFE with RSFSR be adopted by FIFA in **2030 World Cup** matches and in all future World Cup matches.

The AI-based CFE Method is so transparent and accurate (upto three decimal places) that even the looser team and all the worlds fans will become fully convinced at the end of the game that today the team (looser team) is surely not the better performer team. We fans are in doubt whether the VAR processing of Red card for Switzerland's Embolo in "2026 World Cup Quarterfinal" against Argentina was right or wrong. If wrong, then question arises: how VAR can commit a mistake of so high gravity besides equipped with huge volume of **technologies** and large number of **cameras**? Surely this type of mistake in refereeing can never happen in the CFE system by the intelligent Robot Referees. The FIFA ranking method of football teams in 2026 World Cup or in any previous FIFA tournaments is an obsolete method because FIFA adopts purely crisp type of computations assuming that there is **"no fuzziness"** in the core parameters which are usually considered for ranking of football teams.

In this century of AI-era, the author suggests that all the FIFA officials and IFAB officials (including all Hon'ble Members of ESO, BOD, TSC, FAP, TAP, AGM/ABM of IFAB) need to be aware of Zadeh's Fuzzy Theory [5], Soft-computing methods & Soft-computing Mathematics, AI theories to deliver excellent quality decisions in all the future rules of Football games, so that much more amount of justice can be finally given to 'Football Science'. FIFA needs an excellent **Fuzzy Training College** to train all the Robot Referees, all the human Referees, all the FIFA/IFAB officials, and interested Players. The Robot Referees & all intelligent machines may be made by China, without going for any tender bids system by FIFA.

The most important point to be noted in this century is that the AI-based CFE Method can provide **true** and **high amount of justice** as well as **satisfaction** to the "football fans", to the "football games", to the subject "Football Science" and in particular to the "looser team". "Both the teams" at the end of every football match will feel to have got huge justice. The comparison study (see Table-1 in this work) justifies very clearly why FIFA can not provide so high level of justice or satisfaction to the world fans, in particular to the looser team. Consequently, ten(10) non-ignorable very genuine Proposals for "Major Reform" of FIFA Methods & Systems are made in this work in pursuance of 'more & more excellence' by FIFA in 2030 FIFA World

Cup and in all future World Cups. These ten open proposal can reshape FIFA for excellent outputs in all the future World Cup tournaments. The year **2014** is the **"Landmark Year"** in Football history because of several reasons as justified in subsection-6.1 as the 'concept' of outside Refereeing System first time proposed to FIFA **in 2014**, as justified in details in Section-6.1 here, supported by ANNEXURE-1, ANNEXURE-2 & ANNEXURE-3.

ACKNOWLEDGEMENT

The author is thankful to both the Referees for their valuable comment for improvement of the manuscript.

References

- [1] Biswas, Ranjit.: CESFM : A Proposal to FIFA for a new 'Continuous Evaluation Fuzzy Method' of deciding the WINNER of a Football Match that would have otherwise been drawn or tied after 90 minutes of play, American Journal of Sports Science and Medicine. 3(1), 1-8 (2015).
- [2] Biswas, Ranjit., Continuous Fuzzy Evaluation Methods : A Novel Tool for the Analysis and Decision Making in Football (or Soccer) Matches (A new Innovative Proposal to FIFA & UEFA), SpringerBriefs in Computational Intelligence. Springer. Heidelberg. (2018).
- [3] Biswas, Ranjit., FIFA 2026 World Cup: Good Improvement of "Refereeing System", but Evaluation Method of 'Match Winner' is still by too Obsolete Method (not done by advanced AI-based CFE Method), American Journal of Sports Science and Medicine, 2026, Vol.14, No.1, pp 13-20. (Open Access). (Available online at: <http://pubs.sciepub.com/ajssm/14/1/3>).
- [4] Mitchell, Andy., First Elevens: the birth of international football, Createspace Independent Publishing Platform (presently KDP) South Carolina, USA, 2012.
- [5] Zadeh, L. A.: Fuzzy Sets. Inform. and Control. 8, 338-353 (1965).
- [6] https://en.wikipedia.org/wiki/FIFA_Men%27s_World_Ranking.
- [7] <http://www.fifa.com>
- [8] <http://www.theifab.com>
- [9] <https://inside.fifa.com/innovation/world-cup-2022/video-assistant-referee-var>
- [10] <https://www.theifab.com/laws/latest/video-assistant-referee-var-protocol/>
- [11] <https://www.fifamuseum.com/en/explore/fifamuseumplus/past-exhibitions/innovation-in-action/the-first-time-var-made-its-fifa-world-cup-debut-with-griezmann>
- [12] <https://inside.fifa.com/innovation/standards/video-assistant-referee>



© The Author(s) 2026. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

ANNEXURE - 1

(Copy of an email dated 22nd October 2014 from FIFA contact@fifa.org, Zürich, Switzerland sent to the author)

Inbox

• Message. For JAWS, turn virtual PC Cursor on if needed.

contact@fifa.org

To: me · Wed, Oct 22, 2014 at 6:21 PM

Message Body

Dear Prof. Ranjit Biswas,

We thank you for your e-mail.

FIFA truly appreciates that fans take the time to participate in the process of improving football. However, due to the large volume of e-mails that we receive on this subject, kindly understand that we will not be in a position to reply to every e-mail we receive in detail.

In general, through its committees and extensive team of experts, FIFA continually reviews the game of football with a view to improve the sport. The only body able to decide on any change relating to the Laws of the Game is called the International Football Association Board.

The International F.A. Board is constituted by: The Football Association (England), The Scottish Football Association, The Football Association of Wales, The Irish Football Association and FIFA. FIFA has four votes on behalf of all affiliated national associations in membership and the other member associations each have one vote. For a proposal to succeed, it must receive the support of at least three-quarters of those present and entitled to vote.

As is such, the various matters under consideration will be taken up in due course and thus we are unable to make any specific comments on such proposals. For more details on the International F.A. Board, please see the information on FIFA.com at

<http://www.fifa.com/classicfootball/history/the-laws/IFAB.html>

We trust this information will be of use to you.

Yours sincerely,

FIFA Communications & Public Affairs

Fédération Internationale de Football Association
FIFA-Strasse 20 P.O. Box 8044 Zurich Switzerland
Tel.: +41-(0)43-222 7777
contact@fifa.org
www.FIFA.com
www.youtube.com/fifatv

DISCLAIMER

The information in this e-mail and any attachments are confidential and/or privileged and intended only for use by the intended recipient(s). If you are not the intended recipient of this e-mail and/or any attachments or if you have received this e-mail and/or any attachments by mistake or accidentally, please notify the sender immediately, delete this e-mail and any attachments from your system, and do not disclose, or make copies of, such information. Any unauthorised use, copying, dissemination, distribution or disclosure of the information in this e-mail and any attachments is strictly forbidden.

E-mails may be intercepted, altered or read by unauthorised persons. Accordingly, no (contractual) obligations may be imposed on FIFA as a result of an undertaking contained in an e-mail. We further recommend that you use regular mail, courier services or facsimile transmission for any information intended to be of a confidential nature. However, please note that by sending us messages via e-mail, we will be given to understand that you authorise and instruct us to correspond by e-mail in the relevant matter, unless the use of e-mails is not permitted according to FIFA regulations.

From: Biswas Ranjit [mailto:ranjitbiswas@yahoo.com]
Sent: Dienstag, 21. Oktober 2014 17:39
To: Contact (FIFA)
Subject: Research work for correction of one FIFA Rule.

To
Mr. Joseph S. Blatter
President, FIFA. His Excellency.
Fédération Internationale
de Football Association (FIFA),
FIFA-Strasse 20, P.O. Box 8044,
Zurich, Switzerland

Subject: Research work for correction of one FIFA Rule.

Dear Sir,

Please open the attachment-file (a PDF file) and find a research article on genuine requirement for modification of FIFA norm on one important issue which is felt by the football fans of the world in the recent 2014 World Cup too. Please acknowledge the receipt of this email. Submitted for your necessary action please.

---- Prof. Ranjit Biswas
 Head, Department of Computer Science,
 Jamia Hamdard University,
 Hamdard Nagar, New Delhi-62, INDIA.
 (ranjitbiswas@yahoo.com)

ANNEXURE - 2

(Copy of an email dated 2nd July 2016 from Secretary, IFAB Zürich, Switzerland sent to the author)

Inbox

- Message. For JAWS, turn virtual PC Cursor on if needed.
 Theifab Info
 To: me · Sat, Jul 2, 2016 at 8:38 PM

Message Body

Dear Prof Biswas,

Thank you for your communication and attached document.

The IFAB has no authority over the arrangements for the FIFA 2018 World Cup or the current EURO 2016 competition so we would recommend that you contact those bodies directly

Best wishes

David Elleray

Technical Director of The International Football Association Board (The IFAB)

Begin forwarded message:

From: "Biswas Ranjit" <ranjitbiswas@yahoo.com>

To: "Boudien Broekhuis (The IFAB)" <boudien.broekhuis@theifab.com>

Subject: New method 'CESFM' for much fair judgment of football games for IFAB (FIFA), presently under your consideration.

To

Mr. Lukas Brud

Hon'ble Secretary, IFAB.

Subject : New method 'CESFM' for much fair judgment of football games for IFAB (FIFA), presently under your consideration.

Dear Mr. Lukas Brud,

The new "Continuous Evaluation Method" called by CESFM was submitted to IFAB (FIFA) **in 2014** which is a soft-computing theory for **much fair judgment** of football games in the world.

It is now under consideration of your experts, **but I expected it to be implemented in World Cup 2016 by IFAB (FIFA).**

For instance, recently Poland beat Switzerland on penalties to reach the Euro 2016 quarter finals on 25th

June'2016. This could have been better processed by FIFA using CESFM.

For your ready reference, please open the attachment PDF file and find the copy of this new CESFM method.

Will wait for your necessary action please.

With regards,

-- Prof. Ranjit Biswas
 Head, Department of Computer Engineering
 Jamia Hamdard University
 Hamdard Nagar, New Delhi – 62.
 Copy to: FIFA members

----- Forwarded Message -----

From: Boudien Broekhuis (The IFAB) <boudien.broekhuis@theifab.com>

To: "ranjitbiswas@yahoo.com" <ranjitbiswas@yahoo.com>

Cc: Boudien Broekhuis (The IFAB) <boudien.broekhuis@theifab.com>

Sent: Friday, May 22, 2015 5:32 PM

Subject: The International Football Association Board - Response to your proposal

Dear Mr Biswas,

On behalf of the secretary of The International Football Association Board I hereby send you the official response to your letter dated 20 November 2014.

With kind regards,

Boudien Broekhuis

Coordinator

The International Football Association Board – IFAB

Aurorastrasse 100

CH-8032 Zurich

Tel. Direct: +41 (0) 43 222 7142

Fax: +41 (0) 43 222 7878

Mobile: +41 (0) 79 929 81 09

Please consider the environment before printing this email.

ANNEXURE - 3

(Copy of an email dated 22May 2015 from Secretary, IFAB Zürich, Switzerland sent to the author)



To
Ranjit BISWAS
Hamdard Nagar
New Delhi – 110062
INDIA

Zürich, 22 May 2015
SEC/2015-LOSO/bou

Soft-computing method for deciding the match winner

Dear Mr Biswas,

On behalf of The International Football Association Board (The IFAB), I would like to thank you for your proposal on how the Laws of the Game could be improved, which was sent to FIFA on 20 November 2014, and subsequently forwarded for The IFAB's attention.

We are always pleased to see that people the world over truly care about football and share a passion to develop and enhance the game with new approaches.

While we have read your correspondence with interest, we would like to inform you that The IFAB can only consider proposals that are supported and then submitted by the respective national association on your behalf. Therefore we suggest you get in touch with the All India Football Federation via the contact details listed hereafter in order to potentially take your proposal further.

All India Football Federation
Football House, Sector 19, Phase 1 110075 - NEW DELHI
INDIA

We wish you all the best in your future endeavours and thank you once more for the interest shown.

Yours sincerely,
The International Football Association Board

Lukas Brud
Secretary