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Using artificial intelligence to evaluate some basic skills in football for students

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Abstract

The researchers discussed the importance of using modern artificial intelligence in special training and measurement and its effectiveness in measuring basic skills, which is one of the basics on which football skills are built. It turns out that all tests and skillful performance evaluations are done by trainers and subjected to rather old tests, even if they are modern and do not keep pace with the development in the field of measurement and evaluation. Which the researchers prepared as a research problem. Therefore, the researchers sought to use an artificial intelligence program to evaluate the skillful performance of football students. One of the objectives of the study is (using an artificial intelligence program to measure the skillful performance of some basic skills for students in football). The research sample consisted of first-stage students of the College of Physical Education and Sports Sciences, Al-Mustansiriya University for the academic year (2022_2023). The conclusion included the conclusions, including (the artificial intelligence program proved the ability to give approximate results for the ideal performance and with different percentages for each skill for the members of the research sample) and recommendations, including (the need to adopt the artificial intelligence program within the tests of first-stage students in the College of Physical Education and Sports Sciences).

Keywords: Artificial intelligence, basic skills, football In it

1. Introduction

The great development that the world is witnessing in all fields, including the sports field, has led to the development of sports levels and the achievement of great achievements in various sporting events. Events. Football is one of the prominent sporting events that has received increasing attention from different countries and at all levels. Such interest made researchers always strive to develop the game by raising the levels of players in terms of physical, tactical and psychological aspects, in addition to developing their skill side.

Football is one of the simple sports in its entirety, but it needs a set of acquired and innate skills in order to participate more effectively on the field, and this requires training and gaining strength and experience in addition to a lot of patience and repetition, and in fact there are two types of skills, including what is physical and targeting skills Physical in addition to the mental and mental aspect, and from here if you decide to play football, you must definitely learn the basic skills.

Playing football requires possessing a set of skills in order to reach the ability to run and change direction in addition to maintaining balance. These skills can be acquired through continuous training and repeated practice. In fact, they are 5 famous skills that must be learned after that. The player has the ability to play together and participate in field, these skills can be touched upon

The concept of artificial intelligence is related to the intelligence associated with digital or electronic devices such as; Computers, cellular devices or robots, and artificial intelligence expresses the ability of these digital devices to perform tasks associated with intelligent beings. The term artificial intelligence applies to systems that enjoy the intellectual processes of humans such as; The ability to reflect, discover meaning and learn from past experiences. Examples of operations performed by digital devices that are due to the existence of artificial intelligence; Discover proofs for mathematical theorems, playing chess, medical diagnoses, web search engines, voice or handwriting recognition.

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The importance of the research lies in the use of the artificial intelligence program in evaluating some basic skills in football, which is a step that the researcher considers modern and advanced in evaluating skillful performance to keep pace with the development taking place in the sports world.

1.2 Research problem

By examining the researchers about modern programs on the Internet, and being a football player at the Air Force Club, it was found that all tests and skillful performance evaluations are done by coaches and subject them to somewhat old tests, even if they are modern and do not keep pace with the development in the field of measurement and evaluation. Which the researchers prepared as a research problem. Therefore, the researchers sought to use an artificial intelligence program to evaluate the skillful performance of football students.

1.3 Research objectives

- 1- Using an artificial intelligence program to measure the skillful performance of some basic skills of football students.
- 2- Identifying the level of skillful performance of some basic skills for students after comparing them with the (Procable) model.

1.4 areas of research

1.4.1 The human field: students of the first stage of the College of Physical Education and Sports Sciences, Al-Mustansiriya University for the academic year (2022_2023)

1.4.2 The temporal field (12/6/2022) to (4/1/2022)

1.4.3 Spatial field: Al-Mustansiriya University stadium

1.5 Define terms.

Artificial intelligence:¹

It is one of the modern computer sciences that are looking for advanced methods to do business

The conclusions are similar, even within narrow limits, to those reasons that are attributed to human intelligence.

2. Research methodology and field procedures

2.1 Research methodology

The researchers used the descriptive survey method for its suitability and solving the problem of their research.

2.2 Research Sample

The researchers chose their research sample by the intentional method, represented by students of the first stage, Division (B) in the College of Physical Education and Sports Sciences in the academic year (2022-2023), whose number is (30) students out of (40), and the research sample represents (75%) of the original community For the research, the researchers found the coefficient of homogeneity for the research sample using the coefficient of variation as in Table (1).

2.3 research devices and tools

The researchers used the following devices and tools:

- Arab and foreign sources.
- Questionnaire forms for identifying basic skills
- football stadium.

¹ Qutayba Mazen Abdel Majeed; (The use of artificial intelligence in electrical engineering applications, a study and comparison) unpublished master's thesis, The Arab Academy in Denmark, 2009, p.11.

- soccer balls number (10)
- Calculator for laptop type (DILL)
- An artificial intelligence program to measure skills
- The assistant work team consisted of (M. Omar Mezher, Karrar Haidar, Ali Hardan).

2.4 Field research procedures

2.4.1 Determine the basic skills

The researchers surveyed and collected many sources and scientific studies and looked at most of the literature and studies related to football to know the basic skills needed by first-stage students in the College of Physical Education and Sports Sciences and organized a questionnaire form (Appendix 1) and it was presented to a group of experts in the field (Training Science, Football) (Appendix 2) in order to seek their views on determining the most important skills that they deem appropriate for research, and emptying the forms and extracting the relative importance is considered, and accordingly, the days that got 80% or more were approved, as shown in Table (2).

2.4.2 Artificial Intelligence Program

It is a web-based artificial intelligence tool that makes the creation of machine learning models for projects quick and easy without the need for complex programming, as it is possible for training. The computer recognizes (images, sounds, and pauses). The real program will be aware of the program (rooms) similar to the performance, and after completing the training by the artificial intelligence program, the learning phase of the program takes a period of (1-5) minutes in order for it to learn the percentage corresponding to the ideal performance, after which the performance is recognized based on three models, which are (90% and percentage 60% and 40%) It is possible to identify the performance through the camera directly or through prior photography and uploading the image to the site, as in Figure (1) and (2)

2.5 Exploratory experience

The researchers conducted a reconnaissance experiment on (5) students, with the help of the assistant work team, at exactly one o'clock in the afternoon on Sunday 6/11/2023 at the Al-Mustansiriya University stadium. The reconnaissance experiment aims to:

1. The suitability or appropriateness of the order of performance of the relevant skills.
2. Verify the understanding and adequacy of the support staff in conducting the imaging and recording the results.
3. Knowing the obstacles that may appear and avoiding the occurrence of errors.
4. Find out the time taken to carry out the imaging process.
5. The validity and safety of the devices and tools used in photography.

2.6 The main experiment

After the basic skills vocabulary was presented and clarified by the researchers and the assistant work team to the students before their implementation of the experiment, the following procedures were taken:

1. Adequate warm-up time was given before performing the skillful performance.
2. The skillful performance was recorded and photographed by the work team in accordance with the performance conditions.
3. The performance was performed and filmed for one day,

Friday from 11/1/2023, where all the skills were filmed by the assistant staff under the supervision of the researchers.

4. The performance images were compared with the ideal performance images fed to the artificial intelligence program by the programmer (M. Omar Mazhar Malik).

Table 1: It shows the homogeneity of the research sample

T	Variants	Measuring unit	SMA	Standard deviation	Coefficient* variation
1	Chronological age	Year	20,95	0.91	9,64
2	The weight	Kg	67,06	10,85	18,55
3	Height	Poison	188,75	11,76	10,70

Table 2: Shows the relative importance of special physical abilities as chosen by experts.

Sequencing	Special physical capabilities	Relative importance
1	Putting out with the face of the foot	96,47%
2	Scoring with the inner foot face	86,97%
3	Heading the ball	84,86%
4	Deception (equivocation)	94,14%

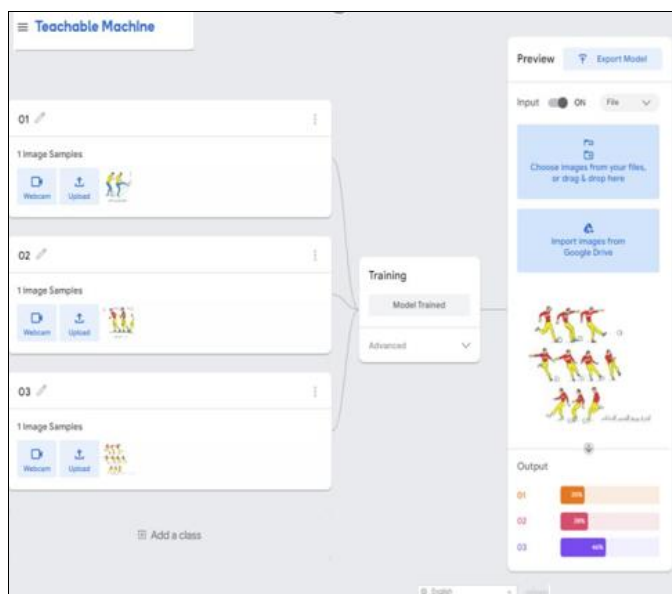


Fig 1: Shows the pictures of the program when it is fed with pictures

2.7 Statistical Methods

The researchers used the following statistical methods in the ready-made bag (SPSS): (Arithmetic mean - standard deviation - median - coefficient of variation - percentage)

3. Presentation, analysis and discussion of the results

3.1 Displaying the results of the arithmetic mean, standard deviations, and the percentage of skills of the research sample: Through Table (3), we note the arithmetic mean, standard deviations, and the percentage of the skills of the research sample.

Table 3: Shows the arithmetic mean, standard deviations, and percentage of the research sample's skills

T	The test	S-	±p	Percentage
1	Putting out with the face of the foot	60,00	0,13	60%
2	Scoring with the inner foot face	60,00	0,13	%60
3	Heading the ball	60,00	0,13	60%
4	Deception (equivocation)	60,00	0,13	60%

3.2 Discussion the results

After the results were presented and based on the level of the sample shown previously, we find that the percentage of all selected skills was (60%).

The researchers attribute the appearance of these results and levels to the research sample, which all achieved an average

level to the quality and level of the tested students, because it is a natural condition for such students in such circumstances in which we live and the lack of capabilities for learning methods that do not have the simplest types of tools and modern devices that they use. Teachers in their educational and complementary units to prepare and learn students. Based on this available basis and analytical discussion, it is necessary to review and reconsider how the sample was selected in terms of quantity and quality first, and the educational programs and their plans second, with follow-up and continuation of the objective evaluation to prove the merit and scientific of what has been reviewed and to evaluate or re-review the plans until a developed curve is recorded that enters the selection record The successful achievement of the students' physical, skillful and tactical capabilities and capabilities in the college admission process.

4. Conclusions and recommendations

4.1 Conclusions

By presenting, analyzing and discussing the results, the researchers concluded:

1. Most of the research sample was of medium level.
2. Statistical treatments showed percentages for each skill for first-stage students in the College of Physical Education and Sports Sciences.
3. The artificial intelligence program demonstrated the ability to give approximate results for the ideal performance with different percentages for each skill of the research sample.

4.2 Recommendations

Based on the results and conclusions reached by the researchers, the following is recommended:

1. The necessity of adopting the artificial intelligence program within the tests of the first-stage students in the College of Physical Education and Sports Sciences.
2. Adopting the percentages of this study to evaluate the students of the first stage in the College of Physical Education and Sports Sciences.
3. Carrying out a similar study on other groups and samples in Iraq.

5. References

1. Abu Al-Ela Ahmed. Sports Biology and Athlete's Health, Cairo, Dar Al-Fikr Al-Arabi, 1998.
2. Al-Basati Amr Allah Ahmed. Training and physical numbers in football, Alexandria, Al-Maaref facility, 1995.

3. Thamer Muhsin, Muwaffaq al-Mawla. Developmental exercises in football, 1st edition, Amman, Dar Al-Fikr for printing, publishing and distribution; c1999.
4. Zuhair Qasim Al-Khashab. A previously mentioned source, p. 276.
5. Sami Al-Saffar, *et al.* Football, Part Two, 1st Edition, University of Mosul; c1981.
6. Essam Abdel-Khalek. Sports training (theories-applications). 9th Edition, Alexandria: Dar Al-Maarif; c1999.
7. Ayyash Faisal, Abdul Haq Al-Ahmar. Football teaching technique, arbitration tactics, test and measurement, Algeria, for the year; c1997.
8. Ghazi Saleh Mahmoud, Hashem Yasser Hassan. Football skill training, 1st edition, Amman, Arab Community Library for Publishing and Distribution, for the year; c2012.
9. Goutouq, Moatasem. Modern trends in football training, Syria, Executive Office of the General Sports Federation for the year; c1995.
10. Qasim Al-Mandalawi. Tests, evaluation and measurement in physical education, 1st edition, Baghdad, Higher Education Press; c1989.
11. Majeed QMA. (The use of artificial intelligence in electrical engineering applications, a study and comparison) unpublished master's thesis, The Arab Academy in Denmark; c2009.
12. Salih Al-Wahsh MA, Muhammad MI. Football Fundamentals, 1st Edition: (Cairo, Dar Alam Al-Maarifa, 1994.
13. Mahmoud, Mowaffaq Asaad. A proposed training program to develop some basic skills in football: Master's thesis, College of Physical Education, University of Basra; c1989.
14. Mukhtar Salem; Football for Millions, (Beirut, Knowledge Library; c1988.
15. Mortada Muhisi. Lectures of the International Football Training Course, University of Baghdad, Journal of the College of Physical Education; c1997.
16. Muhammad MI. Skillful and tactical preparation for the soccer player, 2nd edition, Cairo, Dar Al-Fikr Al-Arabi; c1985.
17. Mufti Ibrahim. Skillful and tactical numbers of the football player Cairo, Arab Thought; c1995.
18. Muwaffaq al-Mawla. Career preparation for football, physiology - training - curricula - plans, Amman, Dar Al-Fikr; c1990.
19. Al-Wahsh, Saleh MA, Ibrahim MM. Football Fundamentals, 1st edition, Cairo, Dar Alam Al-Maarifa, for the year; c1994.
20. Kmash YL, Basic skills in football (education - training), (Amman, Dar Al-Khaleej; c1999.