

Artificial intelligence in video games and More

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In [video games](#), [artificial intelligence](#) (AI) is used to generate responsive, adaptive or [intelligent](#) behaviors primarily in [non-player characters](#) (NPCs) similar to human-like intelligence. Artificial intelligence has been an integral part of video games since their inception in the 1950s. AI in video games is a distinct subfield and differs from academic AI. It serves to improve the game-player experience rather than machine learning or decision making. During the [golden age of arcade video games](#) the idea of AI opponents was largely popularized in the form of graduated difficulty levels, distinct movement patterns, and in-game events dependent on the player's input. Modern games often implement existing techniques such as [pathfinding](#) and [decision trees](#) to guide the actions of NPCs. AI is often used in mechanisms which are not immediately visible to the user, such as [data mining](#) and [procedural-content generation](#).

However, "game AI" does not, in general, as might be thought and sometimes is depicted to be the case, mean a realization of an artificial person corresponding to an NPC, in the manner of say, the [Turing test](#) or an [artificial general intelligence](#).

Overview

The term "game AI" is used to refer to a broad set of [algorithms](#) that also include techniques from [control theory](#), [robotics](#), [computer graphics](#) and [computer science](#) in general, and so video game AI may often not constitute "true AI" in that such techniques do not necessarily facilitate computer learning or other standard criteria, only constituting "automated computation" or a predetermined and limited set of responses to a predetermined and limited set of inputs.

Many industries and corporate voices claim that so-called video game AI has come a long way in the sense that it has revolutionized the way humans interact with all forms of technology, although many expert researchers are skeptical of such claims, and particularly of the notion that such technologies fit the definition of "intelligence" standardly used in the cognitive sciences. Industry voices make the argument that AI has become more versatile in the way we use all technological devices for more than their intended purpose because the AI allows the technology to operate in multiple ways, allegedly developing their own personalities and carrying out complex instructions of the user.

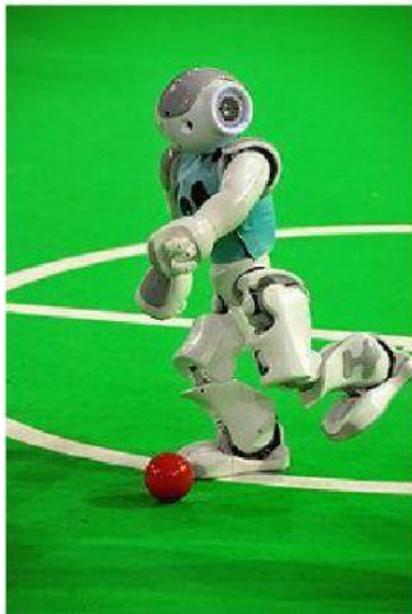
However, many in the field of AI have argued that video game AI is not true intelligence, but an advertising buzzword used to describe computer programs that use simple sorting and matching algorithms to create the illusion of intelligent behavior while bestowing software with a misleading aura of scientific or technological complexity and advancement. Since game AI for NPCs is centered on

appearance of intelligence and good gameplay within environment restrictions, its approach is very different from that of traditional AI.

Views

Many experts complain that the "AI" in the term "game AI" overstates its worth, as game AI is not about [intelligence](#), and shares few of the objectives of the academic field of AI. Whereas "real AI" addresses fields of machine learning, decision making based on arbitrary data input, and even the ultimate goal of [strong AI](#) that can reason, "game AI" often consists of a half-dozen rules of thumb, or [heuristics](#), that are just enough to give a good gameplay experience. Historically, academic game-AI projects have been relatively separate from commercial products because the academic approaches tended to be simple and non-scalable. Commercial game AI has developed its own set of tools, which have been sufficient to give good performance in many cases.

Game developers' increasing awareness of academic AI and a growing interest in computer games by causing the definition of game AI to become distinct from academic AI. Nevertheless, different definitions of game AI mean that game AI is a distinct subfield of AI. Game AI can legitimately solve some problems by [cheating](#), for example, inferring the position of an unseen object from past observations. This is a difficult problem in robotics, but in a game, the AI can simply look up the object's position in the game's [scene graph](#). Such cheating is unrealistic behavior and is not always desirable. But it does distinguish game AI from academic AI, and it can be used to solve problems that are otherwise difficult to solve, such as the problem of cheating.



the academic community is of what counts as AI in a less [idiosyncratic](#). significant differences in application domains of AI can still be viewed as a distinction. In particular, the ability to solve some AI problems in games is an important distinction. For example, the position of an unseen object can be a problem when AI is applied to computer games. A NPC can position itself in the scene graph. Such cheating can lead to unrealistic behavior and so is not always desirable. But its possibility serves to distinguish game AI from academic AI, and it can be used to solve problems that are otherwise difficult to solve, such as the problem of cheating.

The major limitation to strong AI is the inherent depth of thinking and the extreme complexity of the decision making process. This means that although it would be theoretically possible to make "smart" AI the problem would take considerable processing power.

Choose True, False or It doesn't say.

1. In [video games](#), [artificial intelligence](#) (AI) is used to generate responsive, adaptive or [intelligent](#) behaviors primarily in [non-player characters](#) (NPCs).

True False It doesn't say

2. Artificial intelligence has been an integral part of video games since their inception in the 1850s.

True False It doesn't say

3. The major limitation to strong AI is the inherent depth of thinking and the extreme complexity of the decision-making process.

True False It doesn't say

4. We can check AI Intelligence within platforms such as Facebook, YouTube, Netflix.

True False It doesn't say

5. Many experts complain that the "AI" in the term "game AI" overstates its worth, as game AI is not about [intelligence](#), and shares few of the objectives of the academic field of AI.

True False It doesn't say

6. However, many in the field of AI have argued that video game AI is not true intelligence.

True False It doesn't say

7. Game developers' increasing awareness of academic AI and a growing interest in computer games by the academic community is causing the definition of what counts as AI in a game to become less [idiosyncratic](#).

True False It doesn't say