Game artificial intelligence

Artificial Intelligence is rightly at the centre of a number of industries: industrial automation, cloud solutions, medicine and others.

Video games are one of the most dynamic and technologically innovative industries in the world, at the crossroads of a number of areas: programming, psychology, mathematics, and design. The GameDev sphere is particularly important because of the high level of interest among young people.

**How can AI tools help the development of the game industry?**

Artificial intelligence is already being applied to a number of tasks in video game development.

First of all, AI algorithms allow improving the quality of graphics and natural dynamics of various objects: people, vehicles, animals, weather events. Machine learning can identify the most relevant data responsible for the simulation of these processes, resulting in extremely realistic graphics in new games.

Secondly, all gamers dream that the algorithms responsible for simulating the actions of an opponent in the game become at least a little closer to the real thing. Machine learning makes it possible to animate in-game opponents, making the game much more lively and involved.

**So what can artificial intelligence bring to video game fans?**

Firstly, the introduction of machine learning will make it possible to create a variation of storylines in a number of games. Now most of the games have an author-defined storyline around which the game world is built. Machine learning allows to simulate a new system response depending on a number of other factors. So, by selecting specific actions, as well as depending on other game-world parameters, the gamer will be able to choose in which direction the storyline turns.

AI solutions also allow to personalize the game world. Analysis of the user's data or his social networks behavior will make it possible to simulate the game world in such a way that it is the most joyful for the gamer.

**Where has AI been used?**

The S.T.A.L.K.E.R. series is based on modelling the AI for animal groups and monsters, as well as factions that live their lives independently of the player's actions.

ECHO is an example of a new type of game where bots learn from human play. Each time they behave less predictably, and here the player has to learn to improve their weaknesses.

The Deus Ex series: it allows for the most realistic immersion in a world where different playthrough styles are possible thanks to clever gameplay mechanics and AI.

**In summary:** the main task of the AI is not to beat the player, but to give it up to him beautifully.