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MEASURES FOR USING ARTIFICIAL INTELLIGENCE IN MAINTAINING THE STATE CADESTRY OF FAUNA

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Abstract
Animal world state cadastre — natural resources, animals the world and his/her various kind types control to do, to protect to do and manage This is a system. of the system effective activity to conduct for modern technologies , especially artificial from the capabilities of intelligence (SI) use important importance has.Artificial intellect and car study methods application animal of the world various aspects further effective observation , data analysis to do and results based on decisions acceptance to do opportunity SI technologies , for example , animal migration directions , there to live of places change identification , animal population dynamics analysis in doing usage possible . Of these all-ecological balance conservation, species disappeared to leave road not to put and legal control strengthening such as tasks solution in doing help gives. This annotation, animal world state cadastre effective in the conduct artificial intellect role and his/her opportunities about briefly information This gives methods using many thin ecological issues in solution artificial from the intellect use, future animal of the world provides improved monitoring and his/her stability to increase service does.

Keywords: Wildlife cadastre, accounting of animal resources, wildlife protection, information provision, management functions.

Introduction

In the modern world, preserving the ecological balance and protecting the animal world has become one of the most pressing issues for humanity. There is a growing need to improve traditional methods for maintaining a cadastre of the animal world, conducting environmental monitoring, and effectively managing natural resources. The role of artificial intelligence (AI) technologies in this process is increasing day by day.

The State Cadastre of the Fauna is a database designed by the state to monitor the habitats, species, numbers and ecological status of animals. The purpose of maintaining this cadastre is to protect wild animals and their habitats, ensure ecological balance and prevent the extinction

of various animal species. With the help of artificial intelligence, it is possible to optimize these processes and quickly process data. Artificial intelligence technologies are creating new opportunities in the protection of the fauna. For example, with the help of AI, it is possible to monitor the number of animals and their habitats in real time, predict climate change, determine migration routes and reduce errors in updating cadastral systems. At the same time, the importance of artificial intelligence in responding to environmental threats, assessing risks to wild animals and protecting them is increasing. This article provides detailed information on how artificial intelligence technologies can be used in maintaining the state cadastre of the fauna and how these technologies can be beneficial. The state cadastre is primarily a system for collecting and storing data necessary for managing natural resources and assessing their condition. The state cadastre of the fauna studies the number of animal species, their distribution area, migration routes, role in the ecosystem and many other parameters. The data collected in this cadastre plays an important role in environmental monitoring, the creation of protected areas and the conservation of animals.

Artificial intelligence (AI) technologies have various advantages in maintaining a cadastre of the animal world. With the help of AI, it is possible to quickly analyze large amounts of data, track animal migration routes, assess their habitats and numbers, and predict ecological changes. The use of AI technologies can be effective in the following measures: One of the main advantages of AI is the ability to monitor changes in animal populations in real time. For example, AI systems can automatically analyze data collected using cameras and sensors. This process is not limited to determining the presence of animals, but also allows you to assess their migration routes, wintering areas, and feeding behavior. Images taken using modern cameras and drones are analyzed using artificial intelligence. AI systems are used to identify animals from images and accurately determine their type, number, and location. Images and videos taken using drones are used to collect information about animal migration and their habitats. AI systems can quickly analyze these images and help predict changes in animal populations. AI technologies can be used to predict ecological and climatic changes in the animal world. For example, taking into account factors such as climate change, resource depletion, or changes in the habitats of wild animals, artificial intelligence can help predict the future state of ecosystems and animal populations. This will help to effectively implement the proposed environmental policies.

In conducting a cadastre of the fauna, SI technologies are used to analyze not only animals, but also the ecosystems that are their habitat. With the help of **artificial intelligence** , it is possible to observe the interrelationships between plants and animals, food chains, and the stability of ecosystems. This helps to maintain ecological balance. Data on the fauna is very large and diverse, and collecting and analyzing it requires a lot of time and resources. With the help of artificial intelligence, this process can be automated. Facts and statistics obtained from the database can be analyzed using SI algorithms and specific recommendations can be made about the state of the fauna. This provides significant efficiency in the cadastre. With the help of SI technologies, it is possible to forecast ecological and climatic changes in the fauna. For example, taking into account factors such as climate change, resource depletion, or changes in the habitats of wild animals, artificial intelligence helps to predict the future state of ecosystems

and animal populations. This will help to effectively implement the proposed environmental policies. By using artificial intelligence technologies, it is possible to collect and analyze all information about the animal world on a single platform. These platforms are convenient for ecologists, biologists and other specialists, simplifying their work process and allowing for real-time assessment of data.

The data collected for the purpose of maintaining a wildlife cadastre is not always structured and systematized. For example, images from drones or cameras, location data from GPS systems, or data obtained from ecological stations can be random or complex. The role of SI technologies in image analysis is very large. For example, **computer vision** technologies are used to identify animals captured using cameras and drones, their species, number, and behavior. Data obtained from images can be analyzed fully automatically, which significantly saves human resources. Neural networks can be used to predict animal migration routes and determine what changes they will experience. For example, when analyzing changes in animal wintering areas or other ecological behaviors, a model can be created based on previously collected data. Neural networks significantly simplify monitoring these changes and data analysis.

Artificial intelligence not only analyzes the cadastre that reflects animals, but also studies the environment in which they live. Factors such as ecosystem changes, climate change, and natural disasters (such as fires or floods) have a significant impact on animal populations. Artificial intelligence allows you to forecast these factors and anticipate possible future ecological changes. For example: With the help of artificial intelligence, it is possible to analyze the relationship between current climatic conditions and animal populations. This allows you to determine what changes can occur due to climate change, environmental pressures, and other factors. SI systems allow you to collect and analyze data to determine the likelihood of natural disasters. These changes can directly affect the habitat of animals, so forecasts based on artificial intelligence are of great importance for information on animal migration or population.

Conclusion

The role of artificial intelligence in maintaining the state cadastre of the fauna is increasingly increasing. Artificial intelligence creates great opportunities for effective implementation of ecological monitoring, monitoring of animal habitats and protecting biodiversity. These technologies also provide innovative solutions for managing animal resources. In the future, the preservation and optimization of ecological systems with the help of artificial intelligence and other modern technologies will be more effective. This, in turn, will greatly contribute to improving the state of the fauna and ensuring ecological sustainability. However, for the full benefits of artificial intelligence, it is necessary to take measures to ensure data security, accurate operation and countermeasures against risks when implementing systems.

References

1. Information on the "Uzbekistan-2030" strategy of the Republic of Uzbekistan.
2. Spatial Information Act.
3. ASchertovskii, AK Bazarov. Sistema zemlepolzovaniya Uzbekistana. Science. 2007, 212 p.
4. Volkov SNZemleustrochtvo//Uchebnik. T 2: Vnutrikhozyatstvennoe zemleustroystvo. M.: Kolos, 2001, 648 pages.
5. S. Avezbayev, SN Volkov. Economics of land management //Textbook.TIMI, 2016.265.
6. Decree of the President of the Republic of Uzbekistan “On measures to radically improve the system of land accounting and state cadastre maintenance”. September 7, 2020 PF-6061
7. Resolution of the President of the Republic of Uzbekistan “On the organization of the activities of the Cadastral Agency under the State Tax Committee of the Republic of Uzbekistan” dated September 7, 2020 PQ-4819.
8. Decree of the President of the Republic of Uzbekistan “On additional measures to improve the system of use and protection of agricultural lands”
9. www.ygk.uz
10. www.senat.uz
11. WWW.president.uz