

# Artificial intelligence in wildlife conservation

Volume 7 Issue 2 - 2023

**Arun Kumar Mishra**

Regional CCF, Rourkela, Forest, Environment and Climate Change Department, Government of Odisha, India

**Correspondence:** Arun Kumar Mishra, Regional CCF, Rourkela, Forest, Environment and Climate Change Department, Government of Odisha, India, Email rajesh.wildlif@gmail.com**Received:** June 04, 2023 | **Published:** June 19, 2023

## Editorial

Wildlife conservation is a critical issue that concerns the protection of endangered species and their habitats. However, the challenges facing conservationists are numerous and complex. For instance, monitoring the movements and behaviours of animals in their natural habitats can be challenging and time-consuming, particularly for species that are nocturnal or elusive. Moreover, poaching, illegal trade, habitat loss, and climate change are all significant threats to wildlife populations.

Artificial intelligence can help to overcome some of these challenges and provide significant advantages for conservationists. One of the most significant advantages is the ability to process and analyse large amounts of data quickly and accurately. AI can analyse data from remote cameras and sensors, detecting patterns that may be difficult for humans to detect. This technology can also be used to identify endangered species, monitor their movements, and even predict their behaviour.

For example, the Snow Leopard Trust has used AI technology to identify individual snow leopards by their spots, a technique that was previously impossible with manual identification. The organization has also used AI to predict the likelihood of snow leopards living in certain areas based on environmental factors. There are several examples of how AI is being used in wildlife conservation. One of the most well-known examples is the TrailGuard AI system, developed by the organization Resolve. TrailGuard AI uses motion sensors and cameras to detect poachers in protected areas and alerts rangers in real-time. The system has been successful in reducing poaching incidents and helping to protect endangered species. Another example is the use of AI by the National Oceanic and Atmospheric Association (Noaa) which partnered with Google AI for Social Good's bioacoustics team to create an ML model that could recognise whale songs and monitor them in the ocean. MapBiomass water project, Brazil used AI and machine learning for processing more than 150,000 images generated by Nasa's Landsat 5, 7 and 8 satellites from 1985 to 2020 across the 8.5m sq km of Brazilian territory to track the water loss in this area. The organization has used AI to analyse thousands of hours of underwater recordings, detecting the sounds made by different whale species and identifying their locations.

Despite the significant advantages of AI in wildlife conservation, there are also challenges and limitations that need to be addressed. One of the primary challenges is the cost of implementing AI systems. The technology can be expensive, and many conservation organizations may not have the resources to invest in it. Another challenge is the potential for AI to replace human involvement in conservation efforts. While AI can provide valuable data and insights, it is important to recognize that conservation is ultimately a human-driven endeavour that requires collaboration between experts, policymakers, and local communities.

The potential for AI to further revolutionize wildlife conservation in the future is vast. For instance, AI could be used to predict the impact of climate change on endangered species, identifying areas

that are most vulnerable and developing more effective conservation strategies. AI could also be used to develop predictive models that identify potential poaching hotspots, enabling conservationists to intervene before poaching incidents occur.

Finally, the use of AI in wildlife conservation raises ethical considerations that need to be addressed. One of the most significant concerns is the potential for AI to infringe on the privacy of animals. Conservation organizations must be mindful of the impact of AI technology on wildlife, ensuring that it is not causing unnecessary stress or harm to animals. Additionally, it is important to ensure that the data collected by AI is not being used to harm animals or their habitats. Conservation organizations must strike a balance between using AI to improve conservation efforts while respecting the rights of animals and the environment.

## Conclusion

In conclusion, artificial intelligence has the potential to be a game-changer in wildlife conservation efforts. By providing valuable insights and analysis, AI can help conservationists to identify endangered species, monitor their movements, and protect them from poaching and other threats. While there are challenges and limitations to the use of AI in conservation, these can be addressed through collaboration and innovation. As AI technology continues to develop, it is likely that we will see more innovative and effective approaches to wildlife conservation in the future. Ultimately, by harnessing the power of AI, we can work towards a world where endangered species are protected and thriving in their natural habitats.

## Acknowledgments

None

## Conflicts of interest

The author declared that there are no conflicts of interest.