

Ever wondered how Technology can save wildlife?

The National Tiger Conservation Authority (NTCA) and Wildlife Institute of India (WII) has in Collaboration with IIT-Delhi has made it possible. The team conducted a nationwide assessment into the country's population and habitat of tigers (*Panthera Tigris*) in 2018–19 in collaboration with using their “AI-based wildlife monitoring.” This has been the most comprehensive census to date, in terms of both the resources and the data amassed. This project is also featured in the **GUINNESS BOOK OF WORLD RECORDS** for the "Largest Camera Trap Wildlife Survey".

Camera traps (outdoor photographic devices fitted with motion sensors that start recording when an animal passes by) were placed in 26,838 locations and surveyed an effective area of 121,337 square kilometres. In total, the camera traps captured about 3.5 crore photographs of wildlife from all over the country (76,651 of which were tigers and 51,777 were leopards; the remainder were other native fauna). This mega effort resulted in an estimated count of 2927 tigers in India, which was announced by PM Modi in July 2019. The survey concluded that **India's tiger population had increased by roughly one-third since 2014.**

IIT-Delhi being a collaborative partner on this project has begun to make significant contributions towards tiger conservation. The team comprising Gullal Singh Cheema (now an alumnus of IIITD), Ankita Shukla (PhD scholar), Deepak Magesh Srivastav (graduating UG student) and Dr. Saket Anand (faculty member) have been collaborating with WII on AI for wildlife monitoring. In the 2018 National Tiger Census, the IIITD team developed an AI-based module for automatic species categorization, which was used by WII to automatically segregate the tiger and the leopard images from the 3.5 Crore images.

The team is also working on several different projects which are centred on **wildlife population monitoring, anti-poaching efforts and human-animal conflict management.** The team is currently collaborating with WII for individual identification of tigers, leopards and other patterned species for automatic population monitoring. A recent collaboration of the group with Harvard University, Univ. of Southern California, and Microsoft, led to the release of a public dataset that will help develop AI techniques to assist anti-poaching patrolling in protected forest areas. The team is also working on using technology to help mitigate human-macaque conflicts in severely affected areas like Uttarakhand and Himachal Pradesh.

Please do let us know if you find this interesting. We shall be able to connect you with the concerned people at IIT-Delhi for further details on the AI for wildlife conservation related projects.