Wildscope: IndianWild Animal Detection Using YOLOv8 for Conservation and Monitoring

Ashutosh Sharma
Department of Computer Science and Engineering, Sathyabama Institute of Science and Technology, Chennai, India

Anshuman Ghosh
Department of Computer Science and Engineering, Sathyabama Institute of Science and Technology, Chennai, India

Dr. Vijay Ramalingam
Assistant, Department of Computer Science and Engineering, Sathyabama Institute of Science and Technology, Chennai, India

Abstract:

India has an imperative requirement of innovative methods to preserve its biodiversity. This paper introduces Wildscope as the first endeavour in the area of ecological conservation. Using one of the latest models, YOLOv8, which allows deep learning in terms of speed and accuracy, Wildscope provides an applicable approach to scale the real-time detection and classification of wildlife. This dataset comprises many species, all of which occupy unique ecosystems in India, and is used to train the system. Wildscope overcomes many challenges such as occlusions, poor lighting, and natural camouflage and presents a robust framework for wildlife monitoring and protection. In this research, by making use of YOLOv8 advanced capabilities, this project takes the technology a notch higher in conserving species with solutions for ecological research, anti-poaching strategies, and the greater scope of conserving biodiversity.

Keywords:

Wildlife Detection, YOLOv8, Deep Learning, Indian Wildlife, Ecological Monitoring.