

Wildlife Tracker using Deep Learning

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Abstract: *Wildlife tracker using deep learning is a project aimed at developing a system that can automatically detect wild animals using deep learning techniques. Conservationists and researchers face challenges in accurately and efficiently detecting and monitoring wildlife populations in vast and often remote habitats. Traditional methods of wildlife monitoring, such as manual surveys or camera traps, are labour-intensive, time-consuming, and may not provide real-time insights into population dynamics or threats facing wildlife species. The proposed system aims to address these challenges by developing an automated animal detection system using the YOLOv8 object detection model. The system will be trained on a diverse dataset of wildlife images, encompassing various species and environmental conditions. Upon deployment, the system will analyse input images and accurately identify and localize animals within the scene in real-time. Through this approach, the system will provide conservationists and researchers with timely and actionable information for monitoring wildlife populations, assessing habitat health, and implementing targeted conservation interventions. Evaluation of the system's performance will involve metrics such as detection accuracy, precision, recall, and processing speed, ensuring reliable and efficient wildlife detection capabilities. Overall, the proposed system seeks to enhance wildlife conservation efforts by leveraging advanced technology to improve wildlife monitoring and management practices and provide real-time alert.*

Keywords: Machine learning, Deep learning, Neural Network, Convolutional Neural Network, YOLOv8.