

Harnessing AI for Wildlife Conservation: Empowering Youth in Conservation Monitoring and Environmental Action

Webinar | Sunday, 24 May 2026 | 19:00–20:00 (GMT+2) *Virtual Webinar via Zoom | 60 Minutes | Free with Interactive Q&A*

Organizers

- Youssef Bayouli, Lead Speaker
- Lester Nanjala, Moderator
- Frantz Zebaze, Co-Moderator

Target Audience

Youth aged 18–35, students, researchers, NGOs, policymakers, community conservation groups, and environmental technology enthusiasts across Africa. Expected participation ranges between 50 and 100 attendees.

Hashtags: #AI4Wildlife #AfricaYouthConservation #ConservationTech #AfricaYouth

Background and Rationale

Wildlife conservation across Africa is increasingly shaped by overlapping pressures that include habitat degradation, illegal wildlife trade, climate-related disasters, mining expansion, and human-wildlife conflict. Protected areas continue to lose biodiversity at worrying rates, while many conservation agencies operate with limited staffing, restricted budgets, and inadequate monitoring systems. In several regions, elephant and rhino populations have experienced severe declines over recent decades, despite ongoing protection efforts. These challenges underscore the urgent need for scalable, cost-effective, and innovative solutions that can complement traditional conservation approaches.

At the same time, Artificial Intelligence (AI) has started to influence how conservation practitioners collect data, monitor ecosystems, and respond to threats. Machine learning systems are now being used to process thousands of camera trap images within minutes. Acoustic sensors may detect gunshots or chainsaw activity in remote forests before patrol teams arrive. Satellite imagery, drone mapping, and predictive models are also beginning to support habitat monitoring and anti-poaching operations in parts of Africa and Asia.

Some of these tools have produced encouraging results. Systems such as TrailGuard AI and predictive patrol platforms have shown that AI can help identify species, track movement patterns, and prioritize ranger deployment. Research by P. Fergus et al. (2024) suggests that AI-supported conservation platforms using computer vision and thermal imaging have improved species detection and anti-poaching responses in selected contexts. Diane Isabelle and Mika Westerlund (2022) further argue that AI applications could contribute toward achieving several Sustainable Development Goals related to climate, biodiversity, and environmental governance. More recently, the integration of AI with citizen science platforms has opened new pathways for large-scale, community-driven biodiversity monitoring, particularly in data-poor regions.

A number of researchers caution that AI systems may struggle in remote areas with weak connectivity, unreliable electricity, limited datasets, or insufficient local technical expertise. Others note that conservation technologies sometimes receive more attention than the communities expected to use

them. In practice, AI appears most useful when combined with local ecological knowledge, ranger experience, and community participation rather than presented as a replacement for them.

This webinar emerges from that tension between possibility and reality. Across Africa, young people are deeply affected by environmental degradation but often remain excluded from conservation technologies, digital research spaces, and environmental decision-making processes. Yet many youth already possess strong digital literacy and an interest in technology-driven environmental action. Bridging this gap — between the rapid advancement of conservation technology and the meaningful inclusion of African youth — is both a strategic necessity and an ethical imperative.

The webinar therefore seeks to create a practical discussion around AI in conservation, while remaining grounded in the realities facing African communities and protected areas. Rather than focusing only on technical theory, the session will introduce accessible examples of AI tools currently being applied in wildlife monitoring, biodiversity research, ecosystem management, and conservation planning.

The initiative also aligns with the United Nations Sustainable Development Goals, particularly SDGs 4 (Quality Education), 13 (Climate Action), and 15 (Life on Land), alongside the African Union Agenda 2063 vision for digital transformation and sustainable development. It further resonates with the goals of the Kunming-Montreal Global Biodiversity Framework, particularly Target 21, which calls for making biodiversity knowledge and education accessible to all.

Objectives

The webinar aims to:

- Introduce participants to current and emerging AI applications in wildlife conservation and ecosystem monitoring.
- Explore how AI may support anti-poaching efforts, biodiversity research, habitat protection, and conservation planning.
- Encourage greater youth participation in conservation technology, citizen science, and environmental leadership.
- Create opportunities for collaboration between researchers, conservation practitioners, students, and technology communities across Africa.
- Promote discussion around the ethical, social, and logistical limitations of AI implementation within conservation contexts.
- Strengthen the capacity of young conservation professionals and project holders to critically evaluate and responsibly apply AI tools within their local contexts.

Webinar Agenda

Time	Session	Facilitator
19:05–19:10	Welcome and Introductions	Lester Nanjala
19:10–19:50	Keynote Presentation: AI Applications in Wildlife Conservation	Youssef Bayouli
19:50–20:00	Audience Q&A and Closing Remarks	Frantz Zebaze

Key Areas of Discussion

The session will highlight a range of AI-supported conservation approaches, including:

- Camera trap image recognition systems
- Intersection of camera traps, edge bioacoustics, and bird mapping
- Acoustic monitoring for gunshot and chainsaw detection
- Satellite and drone-based habitat monitoring
- Predictive modelling for wildlife movement and poaching risk
- Mobile applications for ranger support and data collection
- AI-assisted biodiversity databases and ecological surveys
- Open-source and low-cost AI tools accessible to conservation practitioners in low-resource settings

The webinar will also reflect on traditional wildlife monitoring methods that continue to play a central role in conservation work. These include direct observation, vegetation surveys, trapping and marking, ranger patrols, and community-led ecological monitoring. In many cases, conservation practitioners still rely heavily on field experience and local knowledge gathered over decades.

The complementarity between AI-driven tools and indigenous or local ecological knowledge will be a recurring thread throughout the discussion, acknowledging that technology is most effective when it amplifies rather than replaces human expertise.

As one ranger remarked during fieldwork: "Technology can help identify patterns, but it cannot yet replace the instinct of someone who knows the landscape intimately." That observation captures the broader challenge facing conservation AI today — the technology is advancing quickly, but successful implementation still depends heavily on human relationships, trust, and local context.

Expected Outcomes and Impact

By the end of the webinar, organizers expect:

- Increased awareness among youth regarding AI applications in conservation and environmental monitoring.
- At least 100 participants registered for follow-up learning materials or future engagement activities.
- New networking connections between conservation practitioners, students, researchers, and technology communities.
- Greater discussion around responsible and context-sensitive use of AI in African conservation settings.
- Initial interest in future youth-led AI conservation challenges or pilot initiatives planned for later in 2026.
- A post-webinar summary document shared with all registered participants, capturing key insights, tools referenced, and recommendations for further learning.
- Identification of at least two or three potential collaborations or follow-up initiatives emerging from participant interactions.

Speakers

Youssef Bayoul (Tunisia) – Lead Speaker

Conservation technologist with a background in AI and robotics and founded of WildLens

Lester Nanjala (Malawi) – Moderator

Africa Regional Co-coordinator, Young Professional Task Force (YPTF) under the International Union for the Conservation of Nature (IUCN)-Species Survival Commission (SSC)-

Frantz Zebaze (Cameroun) – Co-Moderator

Africa Regional Co-coordinator, Young Professional Task Force (YPTF) under the International Union for the Conservation of Nature (IUCN)-Species Survival Commission (SSC)

Conclusion

Artificial Intelligence will not resolve every conservation challenge facing Africa, particularly where governance gaps, habitat loss, and resource constraints persist. Still, when applied carefully and alongside local knowledge and field experience, AI may strengthen wildlife monitoring, conservation planning, and environmental response efforts. This webinar seeks to create a practical space where young people can critically engage with emerging technologies, exchange ideas, and explore realistic ways of contributing to conservation efforts within their own communities.



"Youssef is a conservation technologist with a background in AI and robotics. He founded WildLens AI to bridge field conservation and frontier tech, building tailored edge and machine learning solutions for the rangers, researchers, and reserve managers doing the work on the ground. His interests sit at the intersection of camera traps, edge bioacoustics, and bird mapping. He is also founder and co-lead of the Edge AI group at WILDLABS, the largest global community for conservation technology, convening practitioners pushing intelligence to the sensor and out of the cloud. An alumnus of the National Geographic and Nature Conservancy marine conservation externship, he is a member of the IUCN SSC Young Professionals Task Force."



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