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Fine-grained Recognition and Continuous Learning for Biodiversity Monitoring

Biodiversity monitoring is crucial to understand and preserve our nature. Hence, the computer vision group supports ecologists with AI-based tools for the automated evaluation of images. First, we develop methods for fine-grained species recognition, which is required since the visual appearance of related species complicates traditional recognition methods. We also present methods to enrich the training data with freely available but noisy annotated images from the Internet. Furthermore, our continuous learning methods allow us to quickly adapt trained models to new data and changing requirements with low manual annotation effort. Finally, besides animals, we also develop methods for plant-based tasks, e.g., plant cover estimation.

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