

Wouter Koch presents

Combining taxonomic keys and computer vision

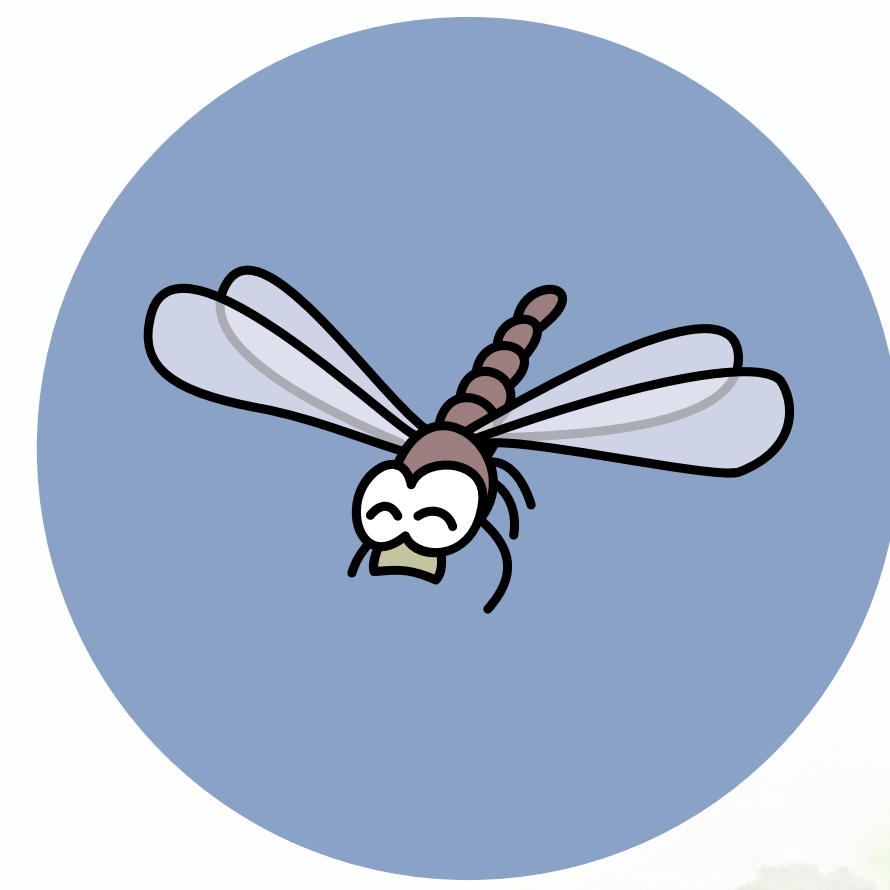
Species identification is the foundation of nearly any biology related task, but it is also difficult. AI computer vision is a helpful tool in this regard, and steadily getting better. But often pictures will be too low quality, or the species may just not be identifiable from only a picture.

In such cases, expert knowledge, such as in the form of identification keys, is needed. But even digital interactive versions can be tedious to use, with a lot of room for error.

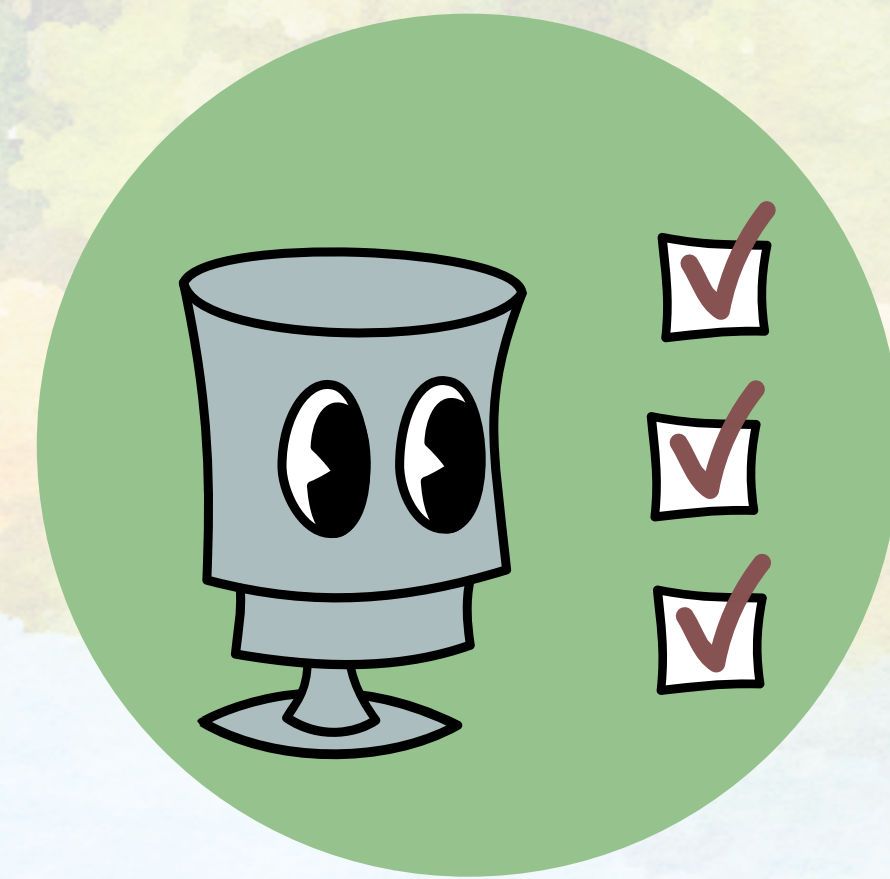
We combined the strengths of both methods by joining our AI and identification key tools (which separately have been operational for years) into a single workflow. The result is demonstrated here using Norwegian dragonflies.

This workflow not only improves identifications, it also:

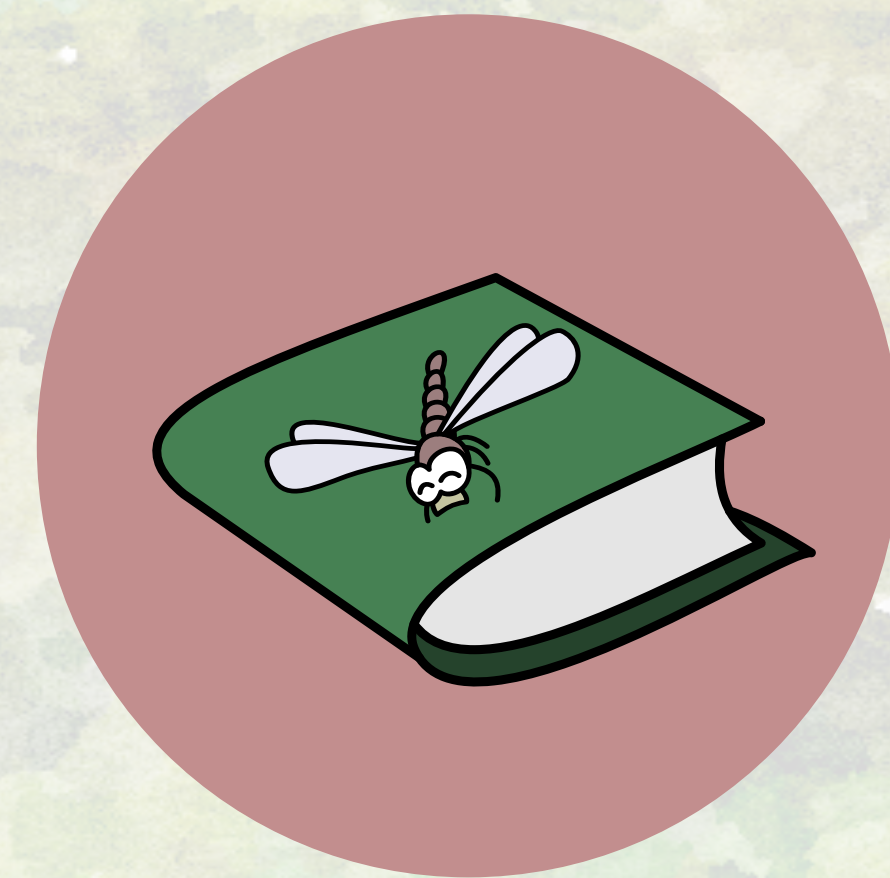
- educates users on relevant characteristics without overwhelming them
- benchmarks AI performance
- provides rich metadata on how and why an ID was made



The user starts with a picture for AI identification

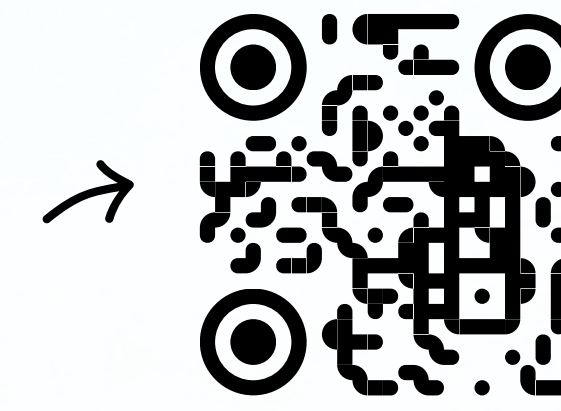


If the AI suggests multiple dragonfly species, the key is pre-filtered on those species

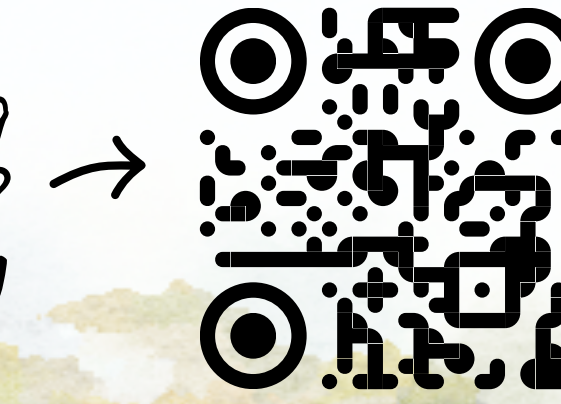


The user can id the species with this (sub)key, answering just a few questions

Live demo!



Forgot to bring your dragonfly? Get some here!

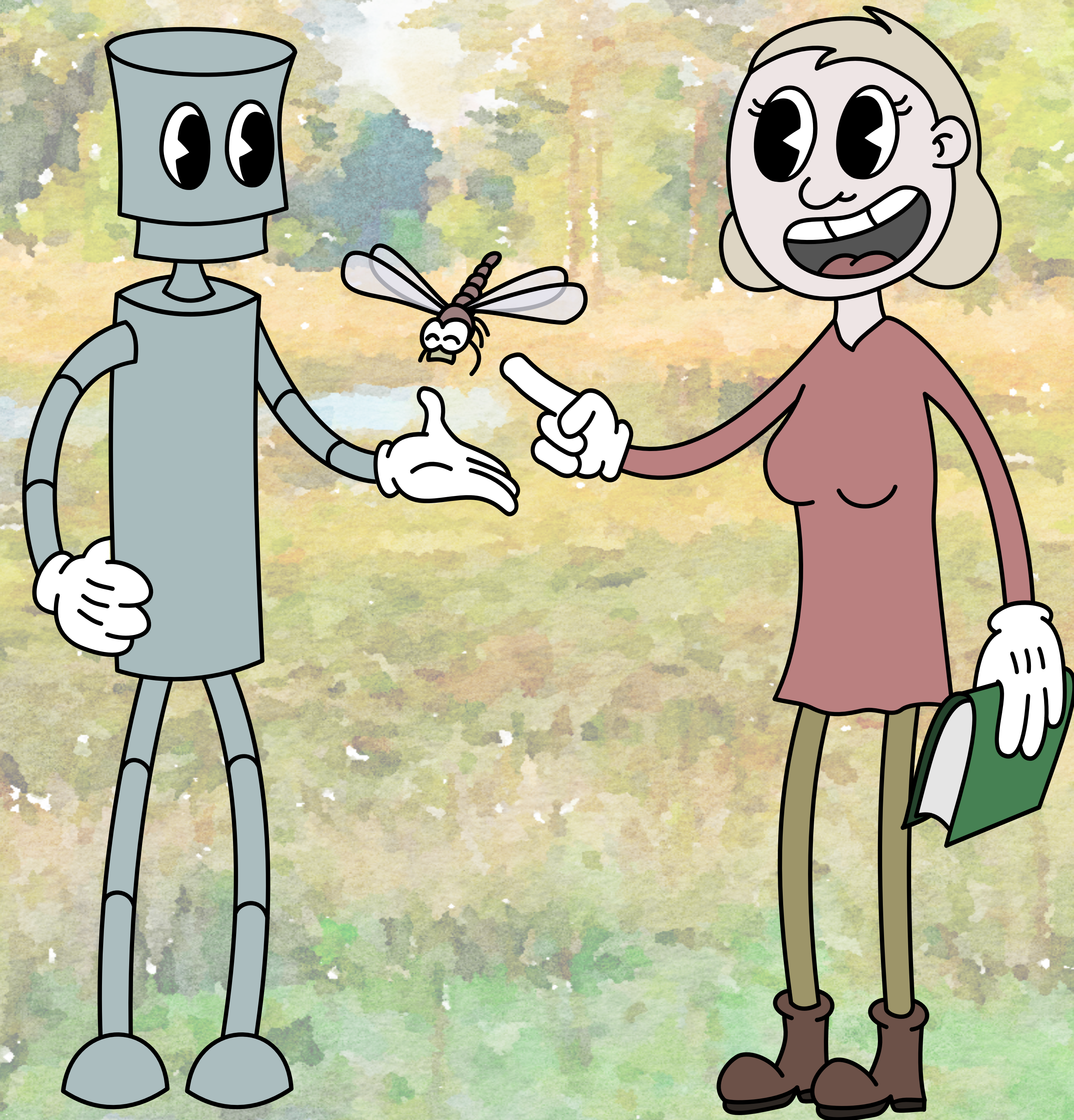


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artsdatabanken



- Golly, we figured it out! -