

Supplementary Material no. 1

Flukebook: An open-source AI platform for cetacean photo identification

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Highlights:

- Flukebook is an open-source web platform with 37 different automated individual identification pipelines for 15 cetacean species.
- Flukebook hosts over 2 million photos of over 52,000 individual cetaceans in a structured database with both strict data privacy and collaboration and sharing tools.
- Building research software as a collaborative open-source effort provides major benefits to project development, allowing conservationists studying diverse taxa and their funders to contribute to the same tools and techniques.
- Flukebook fills a significant gap between computer vision research and software tools with practical benefits to conservation science.

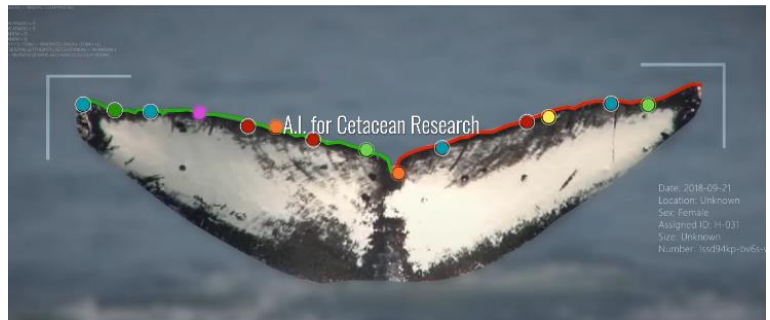


Image credit: Microsoft for Wild Me

This article is part of a thematic collection of articles (Special Issue) of *Mammalian Biology* and covers the following topics and taxa (marked with) addressed in the Special Issue:

Article Type				
<input type="checkbox"/> Original Research	<input checked="" type="checkbox"/> Techniques	<input type="checkbox"/> Review	<input type="checkbox"/> Short Communication	<input type="checkbox"/> Concept Note
Taxon		Topic		
Terrestrial		<input type="checkbox"/> Acoustic ID <input checked="" type="checkbox"/> Identification techniques <input type="checkbox"/> Aerial surveys <input type="checkbox"/> Life-history <input checked="" type="checkbox"/> Analytical innovations <input checked="" type="checkbox"/> Machine learning <input checked="" type="checkbox"/> Automated pattern recognition <input type="checkbox"/> Mark-recapture analysis <input type="checkbox"/> Behavioural ecology <input type="checkbox"/> Morphometrics <input type="checkbox"/> Camera-trapping <input type="checkbox"/> Network analysis <input type="checkbox"/> Conservation management <input type="checkbox"/> Photogrammetry <input checked="" type="checkbox"/> Data management <input type="checkbox"/> Population ecology <input type="checkbox"/> Demographic parameters <input type="checkbox"/> Site fidelity & Movement <input type="checkbox"/> Field methodology <input type="checkbox"/> Social ecology <input type="checkbox"/> Genetic ID <input checked="" type="checkbox"/> Software/Package development <input type="checkbox"/> Health conditions <input type="checkbox"/> Thermal imagery <input type="checkbox"/> Other: (please specify)		
<input type="checkbox"/> Bats (Order Chiroptera)	<input type="checkbox"/> Primates : Great Apes (Family Hominidae)			
<input type="checkbox"/> Carnivores : Bears (Family Ursidae)	<input type="checkbox"/> Primates : Old World monkeys (Family Cercopithecidae)			
<input type="checkbox"/> Carnivores : Canids (Family Canidae)	<input type="checkbox"/> Ungulates : Bovids (Family Bovidae)			
<input type="checkbox"/> Carnivores : Felids (Family Felidae)	<input type="checkbox"/> Ungulates : Deers (Family Cervidae)			
<input type="checkbox"/> Carnivores : Hyenas (Family Hyaenidae)	<input type="checkbox"/> Ungulates : Giraffes (Family Giraffidae)			
<input type="checkbox"/> Carnivores : Mustelids (Family Mustelidae)	<input type="checkbox"/> Ungulates : Horses (Family Equidae)			
<input type="checkbox"/> Elephants (Family Elephantidae)	<input type="checkbox"/> Multiple taxa (3 or more Families/Orders)			
Marine				
<input type="checkbox"/> Baleen whales : Right whales (Family Balaenidae)	<input type="checkbox"/> Large toothed whales (Families Delphinidae & Hyperoodontidae)			
<input type="checkbox"/> Baleen whales : Rorquals (Family Balaenopteridae)	<input type="checkbox"/> Pinnipeds : True seals (Family Phocidae)			
<input type="checkbox"/> Carnivores : Bears (Family Ursidae)	<input type="checkbox"/> Porpoises (Family Phocoenidae)			
<input type="checkbox"/> Carnivores : Mustelids (Family Mustelidae)	<input type="checkbox"/> Sirenians : Manatees (Family Trichechidae)			
<input type="checkbox"/> Dolphins (Family Delphinidae)	<input checked="" type="checkbox"/> Multiple taxa (3 or more Families/Orders)			

References

Karczmarski L, Chan SCY, Rubenstein DI, Chui SYS, Cameron EZ (2022a). Individual identification and photographic techniques in mammalian ecological and behavioural research – Part 1: Methods and concepts. *Mammalian Biology* (Special Issue), 102 (3) <https://link.springer.com/journal/42991/volumes-and-issues/102-3>

Karczmarski L, Chan SCY, Chui SYS, Cameron EZ (2022b). Individual identification and photographic techniques in mammalian ecological and behavioural research – Part 2: Field studies and applications. *Mammalian Biology* (Special Issue), 102 (4) <https://link.springer.com/journal/42991/volumes-and-issues/102-4>