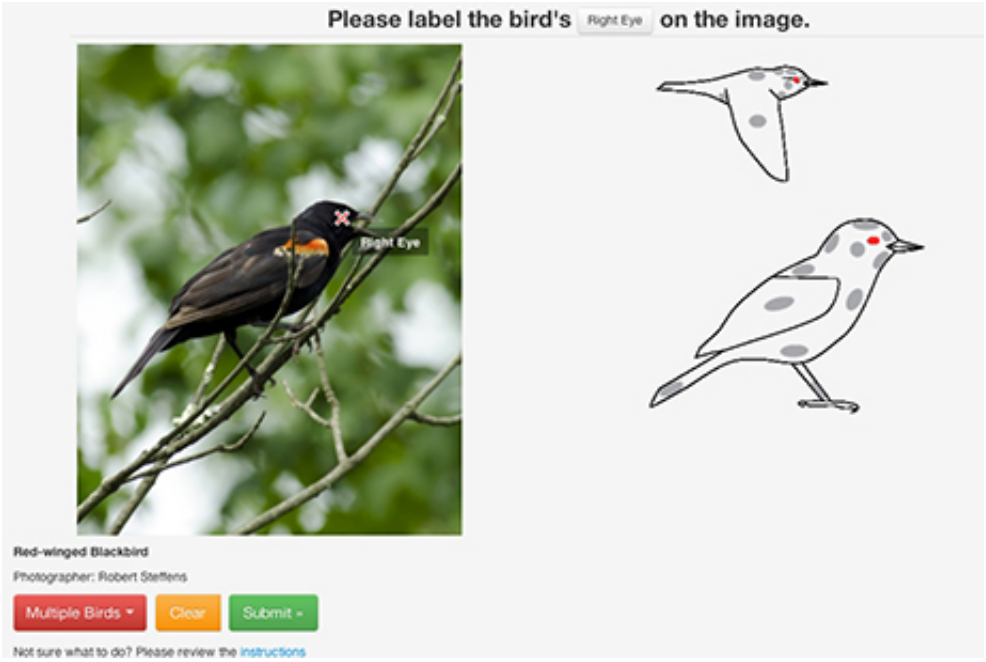
# Help 'Merlin' become a wizard at identifying birds

April 5 2013, by Krishna Ramanujan




In the HotSpot activity, users are shown an image of a bird and asked to click on a specific body part to teach Merlin's computer vision system how to map out bird anatomy in a photo.

(Phys.org) —Soon, when you see a bird you can't identify, Merlin, a new online bird ID tool from Cornell, will be able to help.

When sent a photo, Merlin's visual recognition system will help ID the bird. If a photo is not available, Merlin will play "20 questions," asking the inquirer about the location and date of the sighting among other

questions before suggesting which species is most likely.

The developers seek the public's help to train the program, now under development at the Cornell Lab of Ornithology (with plans for a prototype later this year). Like a child learning new skills, this artificial intelligence program needs lots of input to become more accurate.

"Right now, the algorithms are being trained to help Merlin understand how people see, remember and describe birds," said Scott Haber, the project's digital content manager. "It starts with data, such as observations from the eBird citizen-science project to narrow down which species are most likely to be found at any given location and time of year. But Merlin also learns from interactions as users play with it. We want the public to participate to help make Merlin smarter."

People can contribute through six activities at AllAboutBirds.org/labs . While bolstering Merlin, users also become better birders by learning which features are important. "Mark My Bird" shows users a photo of, say, a cardinal and then asks them to click on graphics to indicate the bird's color patterns, size and shape. Another activity, "Bird Color Challenge," flashes a photo of a bird, then asks users to select the most prominent colors they remember.

Some of the activities help the computer-vision program recognize birds in photos. "Image Share" enables people to upload photos for Merlin's database; "Best Shot" asks users to choose which of two photos has the highest quality; "Bird Crop" asks people to outline the bird's image to help the computer discern birds from the background; and "Hot Spot" teaches Merlin to recognize bird anatomy when users click on body parts in a photo.

"Each year, thousands of people try to identify birds by typing descriptors into the search box on the Cornell Lab of Ornithology's All

About Birds website," said Miyoko Chu, the project's principal investigator and the lab's senior director of communications. "But search engines sometimes return confusing and even outlandish results," she said. "Our goal is to enable someone to describe a bird and get intelligent guidance, the same way they might if they asked a knowledgeable friend."

If the technique is successful, future products could be developed, such as binoculars that help ID the bird in the viewfinder.

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