New software allows scientists to track and protect lemurs in Madagascar

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Tracking individual lemurs, such as the endangered red-bellied lemur pictured here, is no easy task. But researchers hope that facial recognition software can help in the fight for the survival of the bushy-tailed primates. Photo: Wikimedia

It's not easy to tell the difference between lemurs. It's even hard for the scientists who study them every day.

But now, a computer program is able to tell them apart — and it's pretty good at it.

Scientists have created software that remembers lemur faces. It will be used in the forests of Madagascar to help them study endangered lemurs.

The software, called LemurFaceID, allows scientists to easily follow the primates.

The software looks at different digital photographs of lemurs. The software can tell the difference between individual lemurs with almost perfect accuracy.

Using The Software To Help Protect Lemurs

Scientists hope the tool will help protect the lemur species. It could also be a safer way to identify lemurs without hurting them.

The scientists published their findings in the journal BioMed Central Zoology.

To track lemurs, scientists used to trap them. Then they would put special tags on the animals. Then, scientists noted a lemur's physical characteristics: body size, markings, or any scars or injuries.

But tracking these lemurs is difficult over long periods of time. The primates' appearances can change.

Old Method Of Tracking Wasn't Very Good

Rachel Jacobs helped to create the software. She says scientists were unhappy with the common ways to track lemurs. "So we aimed to do something different with red-bellied lemurs, and we sought the expertise of our computer science collaborators."

Jacobs is a biological anthropologist from George Washington University. Biological anthropologists study humans and other primates, like monkeys and lemurs.

To develop the software, Jacobs turned to Anil Jain. He's a professor at Michigan State University and an expert in biometrics. Biometrics is technology that can identify someone based on their physical traits. Scanning peoples' thumbprints to figure out who they are is one use of biometrics. It can also be used to identify animals.

Software Used Hundreds Of Lemur Images

Jain got some of his computer science students to help. They put together a set of images to give to the software.

They collected 462 images of 80 red-bellied lemurs for the computer program. Most of the images were taken in Ranomafana National Park in Madagascar.

The team also gave the computer program 190 more pictures of other lemur types. Having more pictures to choose from helps the software learn faces. This also helps the team test the software to see if it works.

To identify an individual lemur, LemurFaceID first looks at the lemur's eyes. It then analyzes the characteristics of each surrounding pixel, which is a tiny section of the image.

Like humans, lemurs have distinct differences between their faces, Jain said.

The new software will give scientists a tool for tracking lemurs over time.

Stopping The Illegal Capture Of Lemurs

Scientists often need information that has been collected over long periods of time. This is how scientists like Rachel Jacobs learn about what happens to animal populations over time.

Owning a pet lemur in Madagascar is illegal. Some people still try to capture them from the wild, though. The LemurFaceID software could help solve this problem.

The police would just need a picture of a lemur to find out if it was taken from the wild illegally.

Programs like LemurFaceID could also be used to help identify and protect other animals. Jain believes the software could work for bears, red pandas, raccoons and sloths.

Quiz

1 Choose the paragraph in the section "Stopping The Illegal Capture Of Lemurs" that BEST explains how LemurFaceID will help humans protect lemurs.

2 Which sentence from the section "Old Method Of Tracking Wasn't Very Good" BEST supports the idea that LemurFaceID was built to address a problem scientists had?

(A) Rachel Jacobs helped to create the software.

(B) She says scientists were unhappy with the common ways to track lemurs.

(C) Biological anthropologists study humans and other primates, like monkeys and lemurs.

(D) Biometrics is technology that can identify someone based on their physical traits.

3 Fill in the blank in the sentence below.

Overall, the article is organized around _____

(A) a person and her opinions.

(B) an event and its consequences.

(C) an idea and its effects.

(D) a discovery and its importance.

4 Which of the following paragraphs from the article uses sequential order in its structure?

(A) The software looks at different digital photographs of lemurs. The software can tell the difference between individual lemurs with almost perfect accuracy.

(B) To track lemurs, scientists used to trap them. Then they would put special tags on the animals. Then, scientists noted a lemur's physical characteristics: body size, markings, or any scars or injuries.

(C) Rachel Jacobs helped to create the software. She says scientists were unhappy with the common ways to track lemurs. "[S]o we aimed to do something different with red-bellied lemurs, and we sought the expertise of our computer science collaborators."

(D) Programs like LemurFaceID could also be used to help identify and protect other animals. Jain believes the software could work for bears, red pandas, raccoons and sloths.