SSI - Snake Species Identifier

Martoncă Antonel-Daniel, grupa A2, anul II
Barat Narcis-Ștefan, grupa A2, anul II

Contents

1. Description

A company wants to create an application that given a set of images with snakes and a corresponding geographic location, searches through their database and uses artificial intelligence to return the list of species that are the most likely to be observed at the given location, to classify snake species in images, and to return a ranked list of snake species that are most likely to be corresponding to the images given.

The users can directly interact with the application by uploading the information (images and geographic location) via their web site at a specific address and waiting for their prediction.

2. Domains

There will be described the usage scenarios of the application, which hosts the information, and also the user's usage scenarios, which benefits data.

3. Actions/Interests

The application

Provides the users with an online system where they can upload their images and insert the geographic location and shows on the screen the ranked list of species sorted according to the likelihood that they are in the image and might have been observed at that location. The application uses textural features extraction as the key method in identifying the snake species (mainly using machine learning algorithms and CEDD-color and edge directivity descriptor). Thus, the company achieves its purposed goal.

The user

Has a large amount of information, and he can access it by uploading the images and inserting the location. In this scenario, only the user is an actual person.

4. Actors & Objectives

The application: customer satisfaction for good predictions, increase predictions accuracy by storing new information and images.

The user: having a large amount of information, good prediction based by accuracy, and a user-friendly interface of using it.

5. Usage scenarios

1. User search data by uploading an image and a location

Objective/Context

The user wants to find the prediction of a species from a zone by upload an image with the snake. The user uploads the image and complete the input of the search zone. **Scenario/Steps**

1. User access the website via link;
2. User uploads a set of images with the snake (via archive .zip or .rar or via individual images);
3. User completes the input of the search zone area;
4. User clicks on the search button;
5. The application will compute the result and display it on a the page using a list based on the prediction and the species;

Extensions

- If the user doesn't complete all the fields, the search button will not appear on the screen as clickable;
- If the user doesn't upload a set of snake images, the application will reject the search and will ask the user to upload a correct set of snake images;

2. User report a wrong prediction

Objective/Context

After the application returns the results, user can report a wrong prediction if he knows for sure the correct species.

Scenario/Steps

1. User inspects the result;
2. User presses the "Report" button;
3. User will be asked to complete a text box with a reason why the prediction was wrong;
4. User sends the report;

Extensions

- If the user doesn't complete the report message, the "Send" button will be disabled;