



ESTIMATION OF VISITOR FREQUENCIES IN NATURE RESERVES FROM CAMERA TRAP IMAGES

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BACKGROUND

B&N, L&W, MT, LB

MORE INFO

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Background

As part of the Interreg project AGRETA, the importance of nature conservation and nature recovery for the tourism in the Walloon Ardennes is studied. One component of this research is the estimation of the number of visitors in nature reserves. Different methodologies are being evaluated, such as camera traps and cellphone signals. Camera traps, usually deployed to monitor animals, can also be used to photograph people, as they are triggered by motion. However, reviewing the images and counting the people is a time-consuming task. Additionally, for privacy reasons, the tourists in the images need to be blurred so that they become unrecognisable.



Scope of the thesis

The first aim of this thesis is to build a machine learning model that is able to count the tourists in the camera trap images. Additionally, the model can be extended to extract more detailed information, such as the age, gender, mode of transport or behaviour of the tourists.



One of the studied nature reserves also contains a watchtower. A supplementary research question might be to find out whether tourists visit the whole nature reserve or just the watchtower. This can be achieved by applying a re-identification algorithm to the camera trap images to detect if the same tourist appears in different camera trap images.

This thesis is a collaboration with the faculty of Gembloux Agro-Bio Tech of the University of Liège.

