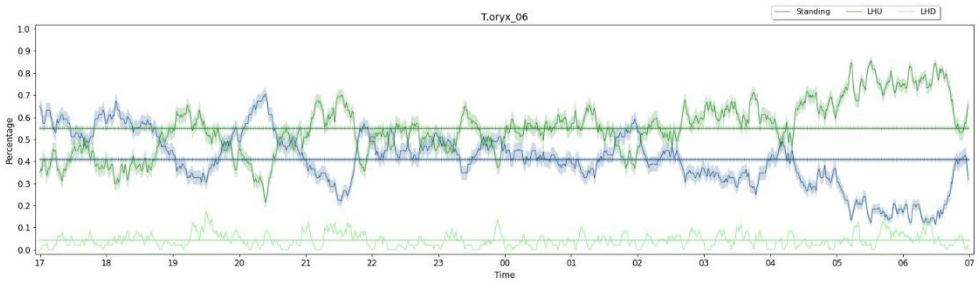
Short description

Given the single predictions of BOVIDS per night stored in FINAL_STORAGE_PREDICTION_FILES of a specific individual, this script can be used to merge the data and report basic statistical key values (like the average number of phases per activity) and a timeline.



Requirements

- packages: numpy, openpyxl, scipy, pandas, matplotlib
- Prediction of BOVIDS.
- An “individual info csv” file.

Individual info:

While merging the data, the script allows to add certain columns of information (like an anonymized individual code or the kind of stabling) in order to make data analysis with standard statistic tools like R more accessible. Therefore, one needs to create an individual_info.csv-file first, an example can be found in *examples/*.

The individual info file has the columns Cod_long, Cod_short, Cod_ssn, species, age, sex, zoo, stabling, stable with the following meaning.

Cod_long: individual code

Cod_short: a probably used shorter (unique) version of the individual code

Cod_ssn: individual code in scientific notation, i.e. this might be used to anonymize data

species, age, sex, zoo: self-explaining

stabling: how many individuals are in the corresponding enclosure?

stable: are there different species in the same (larger) area that might affect the nightly behavior?

Cod_long and Cod_ssn are necessary for the script to work, the other parameters are variable and can be adjusted just by creating a different csv-file providing the user a high degree of freedom.

Step 1 – open spyder

- Terminal / shell:
    - conda activate bovids
    - spyder

Step 2 – adjust parameters

- INDIVIDUALS_TO_MERGE = List of all individuals that shall be conducted (list entries are individual codes). Will create one overview sheet per individual and one graphic per individual. [list]
- KI_AUSWERTUNG = Path (folder) to FINAL_STORAGE_PREDICTION_FILES [string]
- OUTPUT_FOLDER_XLSX = Destination (folder) in which the overview sheets (.xlsx) will be stored. [string]
- OUTPUT_FOLDER_TIMELINE = Destination (folder) in which the overview graphics will be stored. [string]
- INDIVIDUAL_INFO_CSV = Path to the individual info csv file. [string]
- VIDEO_START_TIME = global observation start [integer]
- VIDEO_HOURS = global length of one night [integer]
- CLASSIFICATION_MODE = ‚binary‘ or ‚total‘ depending on which data should be merged. If both classification tasks should be merged, the script needs to be run twice. [string]
- BEHAVIORS = List of the behaviors „standing“, „LHU“, „LHD“, „Out“ (total) or „standing“, „lying”, „n/a“, „Out“ (binary). The list index needs to match the action class of the action classifiers, the names can be chosen arbitrarily. [list]

Step 3 – run the script:

- ***merge_predictions()*** to create the overview files and the timelines.
- If the overview files do already exist, the timelines can be created by ***draw_timelines()***