Internship for a Data Science bachelor's or master's student

Location: University of Vienna, Austria (Department of Behavioural & Cognitive Biology)
Remote work possible

Supervisor: Yseult Héjja-Brichard, PhD (Uni Wien & VetMedUni, AT)
in collaboration with Payton Barry, MSc (UMBC, USA)

E. blennioides

Context and objectives

How many different fish species occupy a specific river? Are they around the whole year or do they follow seasonal migratory patterns? How quickly can we detect invasive species?

Usual fish counting methods rely on a knowledgeable team of people who sample specific portions of rivers once a year to determine what species live there. If this method is very precise, it is time consuming and limited to specific river portions.

Could we leverage citizen science and observation data base, such as iNaturalist, to complement those river surveys?

To address this question, we will focus on two fish families found in North American freshwaters: the Darter (*Etheostomatinae subfamily*) and the Dace fishes (*Cyprinidae*).

The student will have to

- download from the Global Biodiversity Information Facility the GPS data and timestamp data of all reported observations of those fishes by citizen science database users
- compute descriptive statistics of the data
- develop appropriate data visualisations (e.g., distribution maps showing species occurrence per state, per season)

Additional analyses can include comparisons with state-conducted field surveys, identification of missing data, assessing the impact of events organised by iNaturalist…

Required skills: proficiency with R or python for data analysis, good knowledge of data visualisation (e.g. interactive plots with plotly)

Start of the internship: between December 2025 and February 2026

Interested candidates should send their CV and cover letter to:
yseulth92@univie.ac.at

Please note that this is an unpaid internship position. However, if you can get university credits for it, I am more than happy to do the required paperwork.