

LS23-014 - Analysis of Nonhuman Intercommunication with Machine Learning

Zusammenfassung

Most research on animal vocalizations considers units of sound separated by silence, e.g., dog barks. However, humans can create entire sentences without a break, many of which are unique. Similarly, budgerigars (a small parrot species) create unique utterances with components that resemble consonants and vowels. To understand whether the utterances have some meaning resembling language, we need to be able to study budgerigar vocalizations in a natural context. However, because many birds vocalize simultaneously (similar to humans at a party) this has not yet been possible. In the proposed project, we will use recent advances in machine learning and signal processing to extract recordings of each individual bird from multi-microphone and multi-camera recordings of the aviaries. We will then use behavioral experiments to learn about the meaning of the utterances. Ultimately, this project will help us to understand whether humans are the only species on the planet with language.

Wissenschaftliche Disziplinen:

Behavioural biology (50%) | Machine learning (30%) | Signal processing (20%)

Keywords:

bioacoustics, signal processing, vocal communication, animal cognition, evolution of language

Principal Investigator:	Marisa Hoeschele
Institution:	ÖAW - Austrian Academy of Sciences
Co-Principal Investigator(s):	Nicki Holighaus (ÖAW - Austrian Academy of Sciences) Daniel Mann (University of Arkansas at Little Rock)

Status: Vertrag in Vorbereitung

GrantID: 10.47379/LS23014

Weiterführende Links zu den beteiligten Personen und zum Projekt finden Sie unter

<https://wwtf.at/funding/programmes/ls/LS23-014/>