Sijia Shen

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Department of Ecology, College of Life Sciences,
Beijing Normal University, Beijing, China.

Education

M.S. in Ecology **2022 – Present**

Beijing Normal University(BNU), Beijing, China

- **GPA**: 3.7/4.0
- **Thesis Topic**: Applying Machine Learning to Predict Estrus Peak and Mate Choice in Female Giant Pandas Based on Their Vocalizations.
- **Supervisor**: Dingzhen Liu

B.S. in Wildlife and Nature Reserve Management **2018 – 2022**

Beijing Forestry University(BFU), Beijing, China

- **GPA**: 90.64/100
- **Thesis Topic**: Asian Elephants' Discrimination Between Rumbles and Low-frequency Noise of Drones

Research Project

Giant Panda's Ability to Discriminate Human Speech

CCRCGP, Wolong, Sichuan, China Jul. 2023 – Jul. 2024

- **Research Objective:** Investigate Giant Pandas' auditory patterns in response to human speech.
- **My Role**: Wrote the project proposal, designed and conducted the experiments, analyzed panda behavior data, and drafted the project paper.
- **Key Results**: We demonstrated that pandas can distinguish between their keepers and strangers. Furthermore, we found that, despite the pandas' familiarity with the speaker, the accent in human speech serves as a key acoustic cue influencing their perception.
- **Methods Used**: Sound playback, animal behavior recording and observation, statistical analysis (General Linear Model).
- **Paper** (In preparation): Giant Pandas Discriminate Human Speech Based on Familiarity and Accent.
- **Funding:** MOE Key Laboratory for Biodiversity Science and Ecological Engineering, Beijing, China (100k RMB).

The Impact of Drone Noise on Captive Asian elephant's Behavior

Beijing Zoo, Beijing, China Apr. 2022 – Present

- **Research Objective:** Examine the effects of drone noise on the behavior of captive Asian elephants.
- **My Role**: Designed and conducted the experiments, recorded and observed elephants' behavior, analyzed data, and wrote the project report.
- **Key Results**: Preliminary findings suggest that captive Asian elephants at Beijing Zoo pay little attention to low-frequency drone noise playbacks. The next step is to evaluate whether drone noise influences the reception of elephant's low-frequency calls(rumbles) by masking them.
- **Methods Used**: Sound playback, animal behavior recording and observation, statistical analysis (Mann-Whitney U test, General Linear Model).
- **Funded by** Beijing Zoo Administration Department (50k RMB)

Awards

- First-class Scholarship, BNU (12,000 RMB, Top 3%) 2022-2024
- Second-class Scholarship, BFU (Top 8%) 2021
- Outstanding cadres of Student Association 2021
- First-class Scholarship, BFU (Top 3%) 2018-2020

Skills

- **R**: Data Analysis & Visualization
- **Python**: Audio Signal Processing & Modeling
- **English Proficiency**: IELTS Overall 7 (Listening: 7.0, Reading: 8.5, Writing: 6.0, Speaking: 6.0) - Test Date: November 2024