Inês Almeida Nolasco

Address: London
Email: a.nolasco.ines@gmail.com
Github: https://github.com/madzimia
list of Papers: Google Scholar

EDUCATION / TRAINING

02/2020 - 08/2025 PhD Computer Science, **Machine listening lab, Queen Mary University of London**
Thesis: Acoustic identification of individual animals in the wild: Development of machine learning methods that can classify individual animals based on their vocalisations.
Passed with minor corrections

2017-2018 MSc Big Data Science *with Distinction* **Queen Mary University of London**
Final Project: Audio-based beehive state recognition. Developed a classifier to recognize different states (health, development stages) of a beehive based on the sound the bees produce.
Courses included: Machine learning, Big data processing, Deep learning applied to computer vision, Cloud computing, Data mining, and Natural language processing.

2012– 2014 MSc in Electrical and Computer Engineering **Instituto Superior Técnico, Lisbon, Portugal**
Final Project: Biclustering-based imputation in longitudinal data, to deal with the problem of missing data in clinical studies.
Courses included: Computational biology, Robotics, Image processing and Computer Vision.

2007 – 2012 1st Degree in Electrical and Computer Engineering **Instituto Superior Técnico, Lisbon, Portugal**
Courses included: Statistics, Calculus, C programming, Data structures and algorithms, Electromagnetism, Signal processing.

EMPLOYMENT HISTORY

10/2025– **Post Doc researcher,**
Earth Species Project
Development of computational methods for the decoding of animal communication.

11/2023– 01/2024 **Research assistant,**
Prepared Minds Lab/ QMUL
Development of computational methods for the automatic detection of chick calls and classification

04/2019 – 02/2020 **Deep Learning and Speech researcher**
SONANTIC LIMITED
Development of machine learning methods for synthesis of emotional speech.

09/2018 – 04/2019 **Research assistant,**
Machine Listening lab / Centre for Digital Music,
Queen Mary University of London
Research assistant for the projects:

- Audio-based identification of beehive states,
- Integrating sound and context recognition for acoustic scene analysis. http://soundscape.eecs.qmul.ac.uk/
- LiveQuest – Acoustic based welfare assessment of farmed chickens

09/2015 – 12/2016 **Systems administrator,**
Strongnet, lda

Started in the company as an intern and progressed to the system administration role. Main responsibilities involved:

- Direct client IT support.
- Network maintenance and troubleshoot.
- Systems maintenance.

Primary activities include setting up systems accordingly to clients' needs. Maintenance of servers and validation of backups. Offer support to clients with software and hardware problems.

01/2014 – 04/2014 **Website administrator,**
Instituto internacional Casa de Mateus

Responsible for maintaining the website:

- HTML/CSS development.
- Wordpress

TECHNICAL SUMMARY

ADVANCED
Machine learning
Python programming
Machine learning applied to audio
Neural Networks
Pytorch

INTERMEDIATE
Flask
Keras
Tensorflow
Java
R

SELECTED PUBLICATIONS

- I. Nolasco, et al. "**Acoustic identification of individual animals with hierarchical contrastive learning.**" arXiv preprint arXiv:2409.08673 (2024).(ICASSP2025)
- I. Nolasco, et al. **"Learning to detect an animal sound from 5 examples."** Ecological informatics 77 (2023): 102258.
- A. Terenzi, et al. "**Comparison of Feature Extraction Methods for Sound-Based Classification of Honey Bee Activity**," in IEEE/ACM Transactions on Audio, Speech, and Language Processing, vol. 30, pp. 112-122, 2022.
- I. Nolasco and D. Stowell. **"Rank-based loss for learning hierarchical representations.**" ICASSP 2022-2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP). IEEE, 2022.

- V. Morfi, et al. "**Few-shot bioacoustic event detection: A new task at the DCASE 2021 challenge.**" Proceedings of the Detection and Classification of Acoustic Scenes and Events 2021 Workshop (DCASE2021). 2021.
- I. Nolasco, et al. "**Audio-based identification of beehive states.**" ICASSP 2019- IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP). 2019.
- I. Nolasco and E. Benetos, "**To bee or not to bee: Investigating machine learning approaches to beehive sound recognition**", in Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE2018), 2018.

PARALLEL PROJECTS:

- **2025 - : BioDCASE:** I am part of the organising committee for this challenge as the Tasks chair.
- **2020-2024: Few-shot Bioacoustic event detection task:** I was part of the task organisers, responsible for preparing datasets and run evaluation of participating systems.

RESEARCH INTERESTS

- Machine learning applied to audio
- Computational Bioacoustics
- Animal behaviour
- Decision systems in agriculture.
- Ecology and conservation.

PERSONAL INTERESTS

- Sports: Bouldering, Sailing
- Black & white photography
- DnD
- Dog training