Postdoctoral position

in

Computer Vision / Pattern recognition / Machine learning

Laboratoire PRISME - IUT de l'Indre

Châteauroux, le 9 janvier 2026

Frugal and Weakly Supervised Approaches for Video-Based Animal Behavior Analysis

Keywords

Lightweight approaches, Deep Learning, Weakly supervised learning, Action recognition, Video processing, Representation learning, Sequential learning

Context

Automatic analysis of animal behavior, particularly from video data, has become in recent years a major research topic involving an ever-growing number of academic and industrial stakeholders. The challenges are both economic (for livestock animals : support for farm management and herd monitoring, detection of abnormal or noteworthy events) and environmental (wild population monitoring and tracking, and welfare assessment for domestic animals).

The most recent work relies on the remarkable advances in machine learning, particularly those related to deep learning, whose algorithms are capable of learning to recognize complex patterns in large volumes of data. While these algorithms have demonstrated their effectiveness, they also suffer from several limitations : they require very large amounts of annotated data (a tedious, time-consuming, and costly process), they are difficult to generalize to new contexts, and they are computationally demanding in terms of hardware resources (especially during training).

The AniMov2 project, led by the Image-Vision team of the PRISME laboratory in Châteauroux and the Physiology of Reproduction and Behavior unit of the INRAE Centre Val de Loire, fits within this context. Its objective is to study these limitations and to propose and evaluate solutions to overcome them. In particular, the project aims to develop frugal methods capable of taking into account the temporal dynamics (short- and long-term) of the behaviors being analyzed, rather than detecting behaviors solely from static images.

Objectives and missions

Within the AniMov2 project, the postdoctoral researcher will be responsible for :

- Defining a benchmark suitable for evaluating video-based animal behavior analysis approaches, incorporating criteria related to data dependency and computational resource requirements.
- Proposing and investigating frugal approaches, in particular those based on weakly supervised learning methods and incorporating the temporal component, for animal behavior analysis.
- Measuring and comparing the performance of the proposed approaches, as well as those from the state of the art, using the benchmark developed during the project.
- Disseminate and promote the research results through the preparation of scientific publications and the production of an internal report.

Position description

- Contract type : Postdoctoral fixed-term contract
- Duration : 18 to 24 months
- Start date : 01/05/2026 (flexible)
- Salary : According to experience
- Location : IUT de l'Indre, Châteauroux, FRANCE
- Supervision : Xavier Desquesnes (Associate Professor), Bruno Emile (Full Professor), Sylvie Treuillet (Full Professor)

Candidate profile

- PhD in at least one of the following fields : Computer Vision, Machine Learning, Pattern Recognition
- Strong programming skills in Python
- Good knowledge of Linux tools and environment
- Autonomous and rigorous
- Curiosity and creative thinking
- Excellent ability to communicate in English, both orally and in writing

Application

Applications should be submitted as a .zip file containing :

- Detailed CV
- Cover Letter
- Notables publications
- References (at least two)

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