



CESAB

Institut Bouisson Bertrand
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Postdoc Position

Deep learning for poverty prediction from satellite images

Location: FRB – CESAB, 5, rue de l'École de Médecine, 34000 MONTPELLIER

Salary: 2500€ gross/month

Contract: 3 years maximum, full time

Closing date for applications: 15th February 2020

Starting date: May 2020, negotiable

Your Role

CESAB Montpellier, France is looking for a postdoc as part of the PARSEC project funded by the Foundation for Research on Biodiversity (FRB) and the Belmont Forum.

The candidate will implement and compare various deep learning architectures for characterizing poverty in the context of land desertification and predict consumption expenditure, using satellite images in various resolutions (e.g. Sentinel 2 sensor with 10 to 60 m resolution and 13 spectral bands, optical SPOT 6/7, and Pleiades images with spatial resolution of 1.5 m and 0.5 m respectively) and other data sources (e.g., the World Bank's Living Standards Measurement Study surveys, LSMS – <http://surveys.worldbank.org/lsms>), the Demographic and Health Surveys (DHS – <https://dhsprogram.com>), and the Oxford Poverty and Human Development Initiative (OPHI – <https://ophi.org.uk>)).

Qualifications

- PhD in Computer Science in the field of deep learning and machine learning
- Knowledge of satellite image analysis is a plus
- Proficiency in Python programming
- Fluent English
- Good communication skills
- Ambition to pursue high-profile and interdisciplinary research

Host structure

About FRB

The **Foundation for research on biodiversity (FRB)** was created in 2008. It gathers public research institutions, environmental NGOs, land and genetic resources managers and the private sector. It provides a forum where science meets society in order to address the current challenges related to biodiversity research.

About CESAB

The **Centre for Synthesis and Analysis of Biodiversity (CESAB)** is FRB's main programme and a leading research organization in Europe, with an international reputation. Launched in 2008 after the "Grenelle de l'Environnement" by the Ministries for research and for ecology, it was created by eight

public research institutions (BRGM, CIRAD, CNRS, IFREMER, INRA, IRD, IRSTEA and MNHN), joined in 2014 by LVMH and in 2017 by the University of Montpellier.

Its aim is to implement the innovative work of synthesis and analysis of existing data in the field of biodiversity. Advancing knowledge, developing culture and collaboration, facilitating links between scientific disciplines and with the stakeholders, are the main objectives of CESAB, which welcomes every year a large number of researchers from all continents.

Application instructions

Please send your application to laure.berti@ird.fr, marc.chaumont@lirmm.fr, nicolas.mouquet@fondationbiodiversite.fr and carmen.gervet@ird.fr including:

- a detailed CV (research activities, publications, programming skills)
- a motivation letter
- the contact information of 2 referees.