

Postdoctoral Research Fellowship

Deep Learning & Bioacoustics



A recent report issued by the WWF states that there has been a catastrophic decline in wildlife population in recent years. A large number of species are threatened with extinction due to a number of factors. Further conservation efforts are still urgently required to ensure the survival of the remaining individuals. The African Institute for Mathematical Sciences (AIMS) and Stellenbosch University are looking to appoint a postdoctoral fellow to work in the area of deep learning and bioacoustics. The fellow will work as part of a collaborative team of local and international researchers to address important conservation issues.

As a research fellow, you will develop innovative machine learning techniques and advance scientific research in bioacoustics. You will have the chance to collaborate with peers within AIMS and foster your own national and international network. We're looking for an enthusiastic and ambitious researcher.

This fellowship aims at investigating deep learning models for passive acoustic monitoring of calling species. The data will primarily be acoustic data, however additional sources may be used to supplement the investigation. The fellow will research state-of-the-art techniques in deep learning. The fellow will work closely with Dr. Emmanuel Dufourq and the machine learning ecology research group at AIMS. The fellow will work at AIMS which is located in the beautiful city of Muizenberg, Cape Town, South Africa. AIMS is located just a few metres from Muizenberg beach!

What we are looking for:

- Ph.D. in machine learning, computer science or related field.
- A desire to apply machine learning to bioacoustics problems.

- A track record of research and scientific discovery, including publications related to machine learning.
- An ability to communicate research to scientific and public audiences. Experience in developing, debugging and publishing research code.
- Experience in deep learning and Python programming.
- Be independent and driven for academic outcomes and have a desire to share knowledge and work in a collaborative and respectful manner.

If you are excited to help with animal conservation and use deep learning to achieve this, then you should apply! If you love to code and chat about research, then you'll have a great time! If you are excited about the idea of advancing machine learning and bioacoustics in Africa, this fellowship is for you!



What you will do:

- You will share research findings clearly and efficiently both internally at AIMS and externally to the research community and public, verbally and in writing.
- Review related literature in deep learning for bioacoustics.
- Participate fully in projects including research design, software and model implementation, data analysis, data annotation, writing manuscripts, and giving academic talks.
- Co-supervise AIMS students in the area of deep learning for wildlife monitoring.
- You will enjoy working in a multi-cultural pan-African environment, 50 metres away from Cape Town's #1 surf spot.

Value of award:

The fellowship is valued at R215,000 per annum. The award is compliant with the SARS rules for tax exemption and is tenable for two years, subject to submission of a satisfactory progress report and the availability of funds. The position is

immediately available. Note that this is not a remote position, and the fellow will have to be present at AIMS South Africa for the duration of the fellowship.

Application process:

To apply, please e-mail the below documents in three pdf files to ml-positions@aims.ac.za

- A complete CV,
- Proof of Ph.D. completion,
- A covering letter detailing the candidate's experience (especially in deep learning for related tasks, e.g. computer vision or audio), availability to start, and explain your interest in machine learning for bioacoustics.

Questions about the position may be addressed to ml-positions@aims.ac.za



DISCLAIMER: AIMS South Africa reserves the right to disqualify ineligible, incomplete and/or inappropriate applications. AIMS also reserves the right not to make an appointment to the position as advertised or to extend the deadline for applications. Only successful applicants will be contacted.