



AFRICAN ROBOTICS UNIT (ARU)

Post-doc in Multi-Sensor Fusion for Animal Biomechanics

The African Robotics Unit (ARU¹) is a collection of robotics researchers in South Africa focused on studying problems we are uniquely positioned to solve. We are based at the University of Cape Town, the top-ranked university in Africa² which is situated in Cape Town, ranked in the top 25 cities in the world for travel³.



Figure 1: Cheetah (Jules) captured at Ann van Dyk Centre in South Africa.

We are seeking a Postdoctoral Research Associate to join A/Prof. Amir Patel's lab at UCT. A/Prof. Patel's lab is interested in studying the motion of animals through the lens of robotics and machine learning. This approach can provide new insights into biomechanics, ecology as well as help build the next generation of robots. For this position we are looking for someone to help us investigate how sensor fusion can be leveraged to understand the locomotion of wildlife here in South Africa.

¹ <http://african-robotics-unit.github.io/> and <https://www.instagram.com/african.robotics.unit/>

² <https://www.timeshighereducation.com/student/best-universities/best-universities-africa>

³ <https://www.travelandleisure.com/worlds-best/cities>

Requirements

- PhD in Engineering (Electrical, Computer, Robotics) or related field completed within the last 5 years
- Documented experience in perception, state estimation or computer vision
- Proven autonomy in achieving high quality research results and the ability to develop new ideas
- Strong skills in C++ and Python
- Proven experience with ROS and/or ROS2
- Confidence with version control tools (specifically git)
- A strong publication record and the ability to properly report, organise and publish research data
- Good communication skills and ability/willingness to integrate within a multidisciplinary international research group
- Documented experience in coaching junior scientists
- Good command in spoken and written English
- Applicants may not previously have held full-time permanent professional or academic posts and be under 40 years old.

Responsibilities

- Develop sensor fusion algorithms for studying animal biomechanics in the wild
- Attend field trips to collect wildlife data in South Africa
- Lead the Sensor Fusion group and mentor postgraduate students
- Take leading roles in ongoing projects and proposal writing
- The successful candidate will be required to enter into a Memorandum of Agreement with the University of Cape Town and a Memorandum of Understanding with his/her Principal Investigator.

Value and Tenure

The value of the fellowship is in the range of R280 000 to R300 000 per annum (tax-free) and is a **full-time position, based in Cape Town**, for an initial period of one year, with a possible extension to two years. No relocation expenses are available, and the fellowship carries no benefits. *Please note that the exact benefit would depend on the candidates' profiles and their performance during the selection process.*

Note: the cost of living is considerably low in South Africa. For a comparison, please see this link: <https://www.expatistan.com/cost-of-living/country/comparison/united-states/south-africa>

Application requirements:

Applications must include the following:

- A cover letter explaining the candidate's suitability and experience, as well as their availability.
- The applicant's full curriculum vitae and a full list of publications.

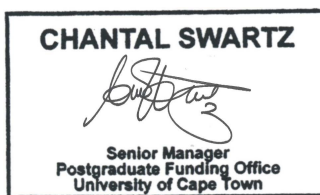
- Applicant's Github page.
- The names and contact details of at least two academics who have taught, supervised, or worked alongside the applicant.
- Certified copies of all academic transcripts (undergraduate, Honours (if applicable), Masters (if applicable) and PhD).

All applicants are subject to the policies, procedures, and rules according to the postdoctoral sector at the University of Cape Town.

Application deadline

The official call is scheduled to open by 28 April 2022. Potential candidates are encouraged to contact A/Prof. Amir Patel (amir.patel@uct.ac.za) for project-related queries. Candidates are advised to apply for the position by emailing Ms Nicole Moodley (nicole.moodley@uct.ac.za) their CV, academic transcript, and GitHub-link

The University of Cape Town reserves the right to make no awards at all, to cancel the award if the conditions are not met, and to effect changes to the conditions of the award. The University of Cape town reserves the right to disqualify ineligible, incomplete and/or inappropriate applications.



APPROVED