

Postdoctoral Fellowship in Artificial Intelligence Systems for Neuroscience

A postdoctoral position is being offered as part of the ALMA Deltas II project led by Professor Kirsty Donald, Deputy Director of the University of Cape Town's Neuroscience Institute (NI). The NI brings together neuroscientists, including clinicians and basic researchers, to create a multidisciplinary environment, geared towards improving our understanding of brain functioning and tackling brain disease.

Background

The Neuroscience Institute and the AI Research Unit (AIRU) at the University of Cape Town is embarking on a joint research project in AI systems for scientific knowledge discovery in Neuroscience with specific emphasis on early childhood brain development. The project is looking to recruit an outstanding researcher in either Computer Science, Computational Neuroscience or an allied discipline who is interested in working on AI systems for Neuroscience. The researcher will work across both the AI Research Unit in the Department of Computer Science and the Neuroscience Institute at UCT but will be primarily supervised and attached to the SARChI Chair in AI Systems within the AI Research Unit.

Research focus

The project will explore various AI techniques, including deep neural networks, knowledge graphs, ontologies and Bayesian networks to develop novel hybrid AI mechanisms for continual learning, causal reconstruction and interactive scientific knowledge discovery for brain development in early childhood and more broadly in neuroscience.

Supervisors: A/Prof Deshen Moodley and Prof Kirsty Donald

Value and Tenure:

The value of the fellowship is R 380 000 per annum. The position is a full-time in-person position based in Cape Town tenable for two years initially for one year and renewable for a second year subject to adequate performance in the first year. Regrettably, no relocation expenses are available. The fellowship carries no benefits and a directive for tax exemption will be applied for by UCT on behalf of the successful candidate.

Conditions and Eligibility:

South African citizens or individuals from other African countries. Applicants must have completed their doctoral study in the last five years. Applicants may not previously have held full-time academic posts.

- The applicant will be expected to have an outstanding profile in Computer Science or Computational Neuroscience or a related discipline, with evidence of interest and an ability to undertake research in the above-mentioned field.

University of Cape Town

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- The successful candidate will be expected to publish at least one, but ideally two conference or journal publications during the fellowship tenure.
- 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 their Principal Investigator.

Application requirements and deadline

Applications must include the following:

- A covering letter explaining the candidate's suitability and experience, as well as their availability.
- A brief research proposal which also highlights how your expertise and interests aligns with the research focus of the project.
- The applicant's full curriculum vitae and a full list of publications.
- 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).

The first application deadline is **26 November 2024**. Please send through the above to BOTH Prof Kirsty Donald (kirsty.donald@uct.ac.za) and A/Prof Deshen Moodley (deshen.moodley@uct.ac.za). The call will remain open until a suitable candidate is found.

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

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