



Stellenbosch

UNIVERSITY
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forward together
sonke siya phambili
saam vorentoe



Structured Research Internship

A research internship in the context of Stellenbosch University refers to international students doing short-term structured research or field work under a supervisor at Stellenbosch University for the purpose of gaining credits to transfer back to their home universities.

Programme Dates:

1 September - 31 October 2022

Why do research Internships at SU

Students doing a research internship at SU will not only gain valuable knowledge and experience in their fields but also experience the rich culture of the country. The research internships are credit bearing and can be transferred to count towards their degrees at their home universities.

Research interns will have the opportunity to work with world-class researchers and academics in cutting-edge facilities while also experiencing the social side of the campus by interacting with other SU students. The research internships at Stellenbosch University not only offer students the academic aspects of a research internship, but also the social and cultural aspect of staying in another country.

Interns will further be exposed to global learning workshop sessions to increase their knowledge about complex issues in South Africa; improve their intercultural competencies; and ultimately be able to market their global skills learned to future employers.

Acceptance Criteria

Students must be on post-graduate level either working towards their masters / doctoral degrees or having already obtained a master's degree to be eligible to apply for the research internship.

Students must also adhere to the specific criteria set out by each department offering internships and admission is to the discretion of the supervisor.



Faculties	Department	Projects	Course Outcomes
Engineering	Chemical Engineering	Optical Torque Transducer for Rotating Shafts.	<ul style="list-style-type: none"> Using Raspberry Pi - familiarity with a Linux operating system. Python programming. Image processing using OpenCV. Putting together basic electronic systems. Some experimental work in the laboratory.
	Process Engineering	Liquid-Liquid Separation of Water + Alcohol Systems for Biofuel Applications	<ul style="list-style-type: none"> Measurement of at least 12 sets of reliable LLE data for the (water + alcohol + entrainer) systems and the interpretation thereof, presented in (ii) a short technical report.
	Electrical Engineering	Verification and testing of localisation algorithms using distributed GPS synchronised sensors for cetacean vocalisations	<ul style="list-style-type: none"> Setup and verify working of Desertstar Sonarpoint localisation system. Setup and verify working of Audiomoth localisation system. Develop localisation algorithms using synchronised data from Sonarpoint and Audiomoth. Compare the precision of Audiomoth and Sonarpoint.
		Researching detectors and classifiers for whale vocalisations.	<ul style="list-style-type: none"> Go through data and identify files with Humpback whale data in. Annotate a portion of the data containing Humpback whale data. Research detectors and classifiers for Humpback whale data. Some experimental work in the laboratory. Implement two of these algorithms. Compare the performance of these algorithms.
Science	Molecular Biology/ Institute for Plant Biotechnology	An Introduction to Molecular Biology	<p>Extensive knowledge on basic experiments in a laboratory:</p> <ul style="list-style-type: none"> Eg. What is DNA and how do we analyse it in the laboratory? What is reverse transcription and how can we couple it to a PCR to amplify a gene from an organism?
	Computer Science	Robust Facial Recognition using Vision Transformers	<p>The outcome of this project is a research manuscript that explores transformers on face recognition systems and the comparison with state-of-the-art CNNs, You will be working with various machine learning architectures using python programming language. The suitable candidate for this project must have MSc and PhD . Proficiency in python and pytorch is required.</p>

Faculties	Department	Projects	Course Outcomes
School for Data Science and Computational Thinking	Computer Science	Supervised author name disambiguation algorithms	<p>The outcome of the project will be a manuscript describing the results of the research. You will learn to work with large-scale graph data (big data), supervised machine learning techniques, and will acquire skills in research design and the scientific methodology.</p>
		Development of Ingestion layer for Distributed Data Architecture	<p>The outcome of the project will be a manuscript describing the results of the research. You will learn to work with large-scale data, data engineering, and will acquire skills in research design and scientific methodology.</p>
		Modelling storage for Distributed Data Architecture	<p>The outcome of the project will be a manuscript describing the results of the research. You will learn to work with large-scale data, data engineering, and will acquire skills in research design and scientific methodology.</p>
		Real-time dashboard for genomic surveillance	<p>One outcome of the project will be contributions to a manuscript in which we will report the results of the research. You will also learn to work with real-time data and data visualization</p>
		Design and analysis of multi-faceted spectrum types for software fault localization	<p>The outcome of the project will be a manuscript describing the results of the research. You will learn to work with different program analysis techniques, and will acquire skills in research design and the scientific methodology.</p>
EMS	The Immersion Africa Program		<p>The incumbent will be expected to develop, maintain, and support advanced services for Companies, community based entities, academic research Chairs and Industries to advance operational objectives. Research associates help Industries and companies reduce workload and improve products. They gather data, design tests and help ensure that information is being properly recorded and assessed. They may participate in clean up and administrative duties as well.</p>



Application Process

20 JULY

Application deadline: 20 July - send your applications via email to Ms Masango-Plato, msm@sun.ac.za

30 JULY

Applicants to receive feedback on applications.

Checklist for Submission

Please indicate the project you are applying for in in the Subject Line, together with the following compulsory documents, and email to msm@sun.ac.za

- A **Motivation Letter**
- B **Research Interest**
- C **Latest Academic transcript**
- D **Reference Letter**
- E **Scanned Passport**
- F **CV**

Programme Dates

The programme will run for 8 weeks. This will allow most students to enter the country without having to obtain a study visa, as it is less than 90days.

Programme Dates:

1 September -
31 October 2022

Additional Programme Services

Also included in the program will be the following social support structures:

- Matie Buddies
- Organised interactions with other students and staff
- Thorough orientation and welcoming of SU
- 24 hour support from a SUI staff member for emergencies
- Weekly face-to-face check in sessions with students facilitated by SUI for all Internship students across all faculties/programmes
- Global learning workshop sessions presented by SUI

Fees

The Internship Fees include the following:

Programme Fees: ZAR 10 000

Tourist Excursions: ZAR 3250
(Table Mountain, Cape Point, Robben Island, District Six Museum, Wine Tasting)

Internship Tuition: ZAR 15 000

Housing Options: Available upon request

TOTAL: **ZAR 28 250**

Talk to us

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 Stellenbosch University International

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