

Zico da Silva · Software Engineer

PERSONAL INFORMATION

Email	zicods7@gmail.com
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GOAL

To be involved in a multi-disciplinary team that offers the chance to do research and development in areas that aim to have a positive impact on our society and the planet.

SKILLS

Software	C/C++, Python, JavaScript (NodeJS & ReactJS), Matlab, Java
Domain	Digital Signal Processing (DSP), Embedded Systems, Optimal Control, Optimisation, Computer Vision
Tools	Git, SVN, Docker, Jenkins, AWS

WORK EXPERIENCE

African Robotics Lab	Feb 2023–Present	Research Assistant, AFRICAN ROBOTICS LAB Part-time research and development work for Dr Amir Patel, on topics closely related to my Master's thesis. We are currently working together on two research papers about the pose estimation of the cheetah in the wild.
	2016–Present	Software and DSP Engineer, PERALEX Lead engineer on a diverse set of projects, ranging from IoT (Internet of Things), web development, and RADAR signal processing. Experienced in developing client-server architectures that integrate high-performance data processing systems (C++ Linux system), together with browser-based data visualisation dashboards.
DIMA Robot	Nov 2014–Feb 2015	Student Intern, UNIVERSITY OF CAPE TOWN Worked on the DIMA Robot, developed by Dr Amir Patel. Implemented an inertial navigation system (INS) for the robot using a Kalman filter and an IMU sensor.
Thingking	Nov-Dec 2013	Student Intern, THINKING Worked with an electrical engineer, developing electronics for interactive products using Arduino and Raspberry Pi micro-controllers.

EDUCATION

Masters of Science	2021-2023	University of Cape Town Passed with Distinction · Department: Electrical Engineering Thesis: <i>Monocular 3D Reconstruction of Cheetahs in the Wild</i> Description: This project explored the use of monocular video to obtain accurate 3D kinematics of the cheetah in its natural habitat. Supervisors: Dr Amir Patel & Dr Fred Nicolls
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2012-2015

University of Cape Town

Bachelor of Science

First Class Honours · Computer and Electrical Engineering · Department:
Electrical Engineering

Final year thesis: Simultaneous Localisation and Mapping (SLAM) for
underground robots with the Kinect camera using computer vision techniques.

PUBLICATIONS

October 2022

Improving 3D Markerless Pose Estimation of
Animals in the Wild using Low-Cost Cameras

2022 IROS

Tracking the 3D motion of agile animals in the wild will enable new insight
into the design of robotic controllers. However, in-field 3D pose estimation of
high-speed wildlife such as cheetahs is still a challenge. In this work, we aim to
solve two of these challenges: unnatural pose estimates during highly occluded
sequences and synchronisation error between multi-view data.

April 2023

Chasing the cheetah: how field
biomechanics has evolved to keep up with the fastest land animal

JEB

This article uses cheetah motion research as a basis to review the past, present
and likely future of field biomechanics.

OTHER INFORMATION

Languages

ENGLISH · C2 (native)

PORTUGUESE · A2

Interests

Music · Football · Dancing