Zico da Silva · Software Engineer

PERSONAL INFORMATION

Email	zicods7@gmail.com
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LinkedIn	linkedin.com/in/zicoengineer/

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

Feb 2023–Present — Research Assistant, African Robotics Lab

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

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.

Nov 2014–Feb 2015 — Student Intern, University of Cape Town

DIMA Robot

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.

Nov-Dec 2013 — Student Intern, Thingking

Thingking

Worked with an electrical engineer, developing electronics for interactive products using Arduino and Raspberry Pi micro-controllers.

EDUCATION

2021-2023 — University of Cape Town

Masters of Science

Pending feedback · Department: Electrical Engineering
Thesis: *Monocular 3D Reconstruction of Cheetahs in the Wild*
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

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