

JC van der Walt

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Professional Summary

Engineer and **Data scientist** with a knack for building **practical software solutions** to real-world problems, **extract meaningful insights** from data, and **communicate clearly** using effective visualisation. A **thoughtful leader**, keen and systematic **problem solver**, and **self-starter**.

TECHNICAL SKILLS

Programming proficiency

Python	Object Oriented Architectures Data analysis: Numpy, Scipy, Sklearn, Pandas, Tensorflow UI development: TKInter
SQL, PL/SQL	Design of efficient relational data structures Query optimisation for fast and efficient data retrieval
Matlab, R	Numerical analysis of differential equations Nonlinear Optimisation, Inverse Problems Image processing and re-colorization
Java, C, C++	Basic working knowledge

EDUCATION

M.Sc. in Mathematical Modelling and Scientific Computing

September 2017 – October 2018

Oxford University

Oxford, United Kingdom

- **Rhodes Scholarship** holder
- Dissertation: Optimisation Algorithms for Sparse Super-resolution, with **distinction**

M.Eng. in Industrial Engineering, *Cum Laude*

February 2016 – June 2017

Stellenbosch University

Stellenbosch, South Africa

- S²A³ Medal for the **best master's project across all scientific departments**
- John Tompson prize for the highest ranking graduate student at Industrial Engineering, and **highest mark awarded to date** for a master's dissertation – 95%
- Awarded a 2017 **Rector's award** in the category of Academics
- Scholarships: National Research Foundation, the Stellenbosch Unit for Operations Research and Engineering, the Media Lab (declined)
- Reviewer for the South African Journal for Industrial Engineering

B.Eng. in Industrial Engineering, *Cum Laude*

January 2012 - December 2015

Stellenbosch University

Stellenbosch, South Africa

- SAIIE Prize: 2015 **Dux Scholar** for B.Eng Industrial, average 87%
- Gerhard Geldenhuys Silver Medal, runner up in a national competition for operations research projects at honours level
- Awarded a 2015 **Rector's award** in the category of Academics
- Decision Making and Analysis Prize: Best student over four years within mathematics and operational research

PROFESSIONAL DEVELOPMENT

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| • First Deep Learning Indaba by Google DeepMind, in Johannesburg, South Africa | July 2017 |
| • Council for Scientific and Industrial Research Summer-school in High Performance Computing | August 2017 |

RESEARCH

- *Irrigation reservoir control*, JC van der Walt, JH van Vuuren, ORiON, Vol 34, No 1 (2018)
- *Decision support for the selection of water release strategies at open-air irrigation reservoirs*, JC van der Walt, JH van Vuuren, Peer-reviewed proceedings of the 44th Annual Conference of the Operations Research Society of South Africa (2015)
- **Presented technical research papers at:**
 - 2016 EURO conference in Poznan, Poland
 - 45th Annual Conference of the Operations Research Society of South Africa
 - 44th Annual Conference of the Operations Research Society of South Africa

WORK EXPERIENCE

Acturis Ltd

October 2018 - Present

Technical Business Analyst

London, United Kingdom

- Pioneered the use of Python to automate testing (replacing manual testing and basic PL/SQL)
- Translate business requirements into technical specifications for software development
- Liaise with third party developers
- Develop and maintain automated data consistency tests on a large relational database
- Perform software testing and defect investigation

The Boston Consulting Group

August 2017-September 2017

Associate Intern

Johannesburg, South Africa

- Analysed sales data for a large retailer and identified opportunities for cost reduction
- Built an interactive model of profitability change for product substitution
- Presented technical solutions to the client

Stellenbosch University

February 2016 – November 2016

Teaching Assistant

Stellenbosch, South Africa

- Present operations research tutorials for fourth year engineering students, on subjects including decision making under uncertainty, queuing theory, dynamic programming, integer programming, resource allocation and scheduling problems

Wildeklaar Ltd

November 2014 – December 2014

Engineering intern

Kimberly, South Africa

- Added functionality to a simulation model of pack-house operations used for operational planning

COMMUNITY INVOLVEMENT AND LEADERSHIP

- Stellenbosch-Leuven **Think Tank for top graduate students**
- Stellenbosch Primarius Committee – represent the student body to university management
- Elected to **head of house** at Majuba residence, from approximately 150 students
- Management committee of the Stellenbosch Outdoor and Hiking society
- Majuba Management committee – head of sport and academic mentorship
- Outreaches to rural communities in India, and Lesotho