

Education

2015–2018



University of Cape Town, *BSc (Eng) in Electrical and Computer Engineering*, Cape Town, South Africa, *Graduated with honours*

I've attained special interest in courses that applies the mathematics of complex analysis, including Digital Signal Processing and Control engineering. I frequently attended lectures not in my syllabus purely for the love of learning. These include all the lectures in the "Theory of Computation" course and many lectures given by the UCT Mathematics Society.

2010–2014



Pretoria Boys High School, *National Senior Certificate*, Pretoria, South Africa

I made heavy use of the extramural programs in high school. I was involved with squash, cricket, hiking club and philosophical society. Most of my time was spent in the music programme, playing trumpet for more than 4 school bands.

Final Year Project

Title	<i>Pitch Correction of Digital Audio</i>
Supervisors	Associate Professor Fred Nicolls
Description	The goal of this project was to design a system capable of correcting the pitch of a monophonic instrument. It involved designing a prototype on Matlab and testing different configurations using rigorous metrics to assess the success of the prototype.

Experience

2024 - Present



Kernel/Hypervisor Engineer, AMAZON WEB SERVICES, Cape Town, South Africa

The Nitro Hypervisor Oversubscription team owns the software components on the physical hardware that enables our memory and CPU oversubscription instance types in EC2. As a member of that team I help develop new features, onboard new hardware and maintain feature parity for these instance types.

2023


Freelance Software Developer, FREELANCE, Cape Town, South Africa

Developed bespoke flight simulation software for the [Test Flying Academy of South Africa](#) simulating experimental VTOL aircraft as well as doing fraud detection and designing machine learning workflows for a company in the financial services industry.

2022

Gap Year, TRAVELING, South Africa, Mozambique, Namibia, India, Thailand

My travels involved motorcycle trips through the Garden Route (South Africa), Lahdakh and Kashmir (India), and Chiang Mai (Thailand). During my garden route trip I did a Paragliding course and received my paragliding licence. During my Mozambique trip I did my PADI open-water diver certification. I spent my free-time contributing to open-source projects and authored a Rust FFT library called [easyfft](#).

- 2019 - 2021 **Software Development Engineer**, AMAZON WEB SERVICES,
Cape Town, South Africa
-  The Amazon Development Center in Cape Town develops and maintains Amazon's core Elastic Cloud Computing (EC2) service. Initially I joined the placement team, responsible for maintaining the services doing virtual instance placement on physical hardware. Thereafter I joined the oversubscription team responsible for developing a new feature for Amazon's hypervisor working closely with the memory management subsystem.
- 2018 **Intern Software Development Engineer**, AMAZON WEB SERVICES,
November Cape Town, South Africa
– This internship consisted of backend web development in a micro-services environment. I was responsible for designing, creating, deploying and maintaining my own service. The bulk of the implementation was written in Java.
- 2019 May
- 2016 **Intern Technician**, THE TURNTABLE GUY,
June–July Cape Town, South Africa
Working with old audiophile equipment and turntables really fueled my interest in audio and the signal processing that goes in designing such devices. Most of my time was spent debugging and servicing old amplifiers, occasionally having to attend to customers.
- 2015 **Engineering Intern**, EXPERTRON,
June–July Pretoria, South Africa
Expertron is a Linux-centric software engineering and IT consulting company. I was involved in many projects, including setting up and deploying a content management system.

Tools

- Linux I like my freedom
Vim ... is a lifestyle
Git Enthusiast
Rust Systems programming
C Linux kernel tinkering

Academic Interests

- Mathematics
- Programming Language Design
- Signal Processing

Languages

- | | | |
|-----------|---------------------------------------------|-----------------------------|
| Afrikaans | Mother tongue | <i>Spoken at home</i> |
| English | English High School | <i>Fluent</i> |
| German | 2 Years of High School and general exposure | <i>Pickup after a while</i> |

General Information

- Full Name Walter Smuts
Gender Male
ID Number 9603045068089
Date of Birth 04 March 1996
Nationality South African
Hometown Pretoria, South Africa
Licence Car, Motorcycle, Paraglider and PADI advanced open-water diving