Curriculum Vitae

Walter Smuts

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Education

University of Cape Town

I'm studying Electrical and Computer engineering (BSc Eng) currently in my 4th year. I'm on the standard 4 year program and have not failed a single subject, achieving a GPA of 65%.

My favorite courses thus far has been signals and systems, control theory and computer science. I thoroughly enjoyed the mathematical foundations and essence of theses subjects.

I am part of the Mathematical society (MamSoc) and was involved in the Algorithm circle (Computer Science Club) during my first year. Throughout my studies I often play squash, hike and go swimming.

Pretoria Boys High School

My elective choices for my high school career was Music, information Technology, Physical Sciences and Advanced Programme Mathematics. I achieved 3 distinctions for my NSC certificate with an average of 78% and 67% for Advanced programme mathematics (an IEB subject).

Most of my involvement in high school was related to the music department. I played first trumpet for the orchestra, wind band, Dixie band and brass choir. I thoroughly enjoyed public performances and the constant exposure to music.

I played squash throughout my high school career and cricket during the first two years. I was one of the lucky few who got accepted for bush school, spending a term in the Magaliesberg north of Pretoria. The experience gave me an intense love of nature. I was part of the hiking club during my 4th and 5th years and went on numerous hikes with and without the hiking club.

Special Interests

Mathematics	Theoretical Computer Science
Cryptography	Theoretical Physics
Rocketry	Travel
Squash	Audio

Projects

TuneMe - University Project

For our third year embedded systems course we were tasked with doing a music-based embedded project in groups of 4. I was the group leader and presented the idea for making a real-time autotuning DSP project for karaoke.

We managed to get real time pitch shifting working but ran out of time and could not create a fully auto tuning system. The overall project was a success and we achieved 73%.

Mandelbrot Zoom - Personal Project

A java program (with some bash scripts) that draws the Mandelbrot set at incremental crop levels, producing a set of images. These images are stitched together to produce a zooming video.

LMMS - Open Source Project

LMMS is an open source digital audio workspace developed on GitHub by many open source Linux developers. The goal is to be a Linux alternative for software like fl-studios.

I submitted three issues and two pull requests to solve two of these issues. Both pull requests were accepted into the main branch and the other issue was quickly resolved by another developer. I still plan on contributing more to the project in the future.

Digital Speedometer - Personal Project

My motorbike, a KLR-650, does not have a fuel gauge or fuel consumption meter. I decided to add this functionality by making an Arduino based interface, LCD Screen and buttons, with a speedometer (Hall effect based) and fuel flow meter (part from china). These parts should be capable of calculating speed, fuel consumption, fuel left and even estimated distance on tank.

The interface and speedometer sections were successful but unfortunately the flow meter seemed to be faulty.

Experience

Project Management - Project Manager

During my third year of studies I took a course on project management. I ended up being the project manager in a group of 7 people.

Structuring a project from scratch and organizing the project into tasks were the main skills I learnt by being the project manager. Creating an environment where it was easy for everyone to complete their task was my main focus.

The Turntable Guy - Intern Technician

Because of my interest in audio I took an intern job at an audiophile shop. The shop focuses on fixing old amplifiers and turntables.

The majority of my time was spent servicing, debugging and fixing old audio amplifiers. Some time was spent fixing turntables and helping customers.

Expertron - Engineering Intern

Expertron is a Linux-based software engineering and IT consulting company. I took the position to see what the process of Linux-based development involved.

I was tasked to implement a content management system (CMS) based on SilverStripe for their website. This gave me lots of exposure to CSS and practical use in deploying a Linux based system.

For the love of Yummyness - Crêpe Chef

A university friend asked if I could help out at a crêpe stand at the Old Biscuit Mill. I eventually got hired permanently. When studies started to required my attention I only worked when needed.

I learnt how to work with clients and the dynamics of a workplace. It gave me exposure of the tourist parts of Cape Town and was a great introduction to the city.

References

Gavin Ehlers Intern Supervisor

Experton Co-founder
gavin@expertron.co.za
071 610 5952

Dr Neil vd Watt Music Teacher

Experton Co-founder
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Programming Tools

Linux:	Six years as my primary personal computer with lots of tinkering
Java:	Second year object oriented programming, data structures and concurrent programming
C++:	Third year computer science advanced overview
C:	Embedded Systems programming
Git:	Extensively used for university and personal projects
Make:	Extensively used for university and personal projects
Matlab:	Second year control theory and digital signal processing
Python:	Introduction to computer Science and online programming challenges
Delphi:	Three years in high school
VHDL:	Third year computer architecture course
LaTeX:	Report writing throughout university

General Information

Full Name:	Walter Smuts
Gender:	Male
ID Number:	9603045068089
Birth Date:	March 4th, 1996
Nationality:	South African
Marital Status:	Unmarried
Residence:	Rondebosch, Cape Town
Hometown:	Brooklyn, Pretoria
Licence:	Car and Motorcycle
Personal Transport:	Yes