

Humphrey Chiramba

Embedded Systems Engineer

I am a young and energetic man eager to further pursue more knowledge and experience in the field of Software and Engineering. Advancing in this area would be an ideal next step in my career path. Currently, I am working at Plentify as an Embedded Systems Engineer learning about real time operating systems and acquiring skills in Firmware Engineering.

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Work Experience

Plentify / Embedded Systems Engineer

August 2023 – Present, Cape Town

Plentify's mission is to create technologies and services that enable smarter energy management and usage.

Having completed my internship, I moved to a full-time role with Plentify, joining their Firmware team. We are working with Zephyr on embedded microcontrollers to develop new products which will be sold to both businesses and the public.

Plentify / Intern

May 2023 – August 2023, Cape Town

This was a role mainly based around improving some of the current systems which the firmware team at Plentify were using. This included working with Python tools, AWS and Heroku.

University of Cape Town / Teaching Assistant

June 2021 – December 2022, Cape Town

Teaching assistants help in managing and administrating courses alongside lectures and course convenor. I was the teaching assistant for the 3rd Year Engineering Design course (2021, 2022) where students had to design and build subsystems to collect data from waves in Antarctica. I was also involved with the 2nd Year Power engineering course (2022) for Computer Science and Mechanical Engineering students.

University of Cape Town / Tutor

March 2021 – June 2021, Cape Town

Assisted students in a 3rd year Design Principles course and a 4th year High Performance Engineering Course.

Lumkani / Intern

June 2018 – January 2019, Cape Town

Lumkani is a social enterprise with a mission to mitigate the loss of life and property caused by slum fires in South Africa and across the globe. I got hands on with their product and performed tests on some of their new features that were soon to be rolled out.

CodeSpace / Intern

June 2019 – October 2019, Cape Town

Codespace's vision is to enable people to learn, unlearn and relearn so that

they become active contributors within an ever-changing global economy through educating students to code. In my time here, I helped to fix up computers and devices which the company wanted to use for educating students.

Education

University of Cape Town / M.Sc. Eng in Electrical Engineering

March 2021 – December 2022, Cape Town

My master's dissertation was based around a low-cost motion capture system controlled by an Android device. The system involved programming a central processor in C++ and working with sensors to gather data, process it and transport it into a network. In addition to this, mobile and desktop applications were created in Flutter and Unity 3D to interact with the system and process the captured data.

University of Cape Town / B.Sc. in Electrical and Computer Engineering

March 2017 – December 2020, Cape Town

Most of my studies consisted of the core fundamentals of electrical engineering with a focus on embedded systems, telecommunications engineering and computer science. My final year project was based on asset tracking with low cost, low power radios.

Peterhouse Boys High School / Cambridge IGCSE, AS Level and A Levels

January 2011 – December 2016, Marondera (Zimbabwe)

In class, I focussed on Maths, Physics, and Chemistry as my main subjects. Outside of class, I was a school prefect, chairperson of the Debate and Public Speaking club and a regular member of the Volleyball first team, among various other exploits, varying from being on the quiz team, to being a part of compiling the school magazine.

Borrowdale Primary School

January 2004 – December 2010, Harare (Zimbabwe)

I was a prefect in charge of the grade 6 class, as well as captain of the cricket team and vice captain of the tennis and rugby team.

Membership

Engineering Council of South Africa (ECSA) / Candidate Engineer

August 2022 – Present

University of Cape Town IEEE Student Branch

March 2017 – December 2022

Chairperson (2020)

This was a demanding role which led to meeting multiple different levels of the organization's leaders on a national level as well as leading the society to growth. It was made more difficult by the pandemic however, alongside the leadership team, we completed the year, keeping our members engaged.

Marketing and Public Representation (2019)

My main duties involved making the university community aware of events

that were being hosted by the society by designing and printing posters.

Programming Languages

Python, C++

Notable Projects

Action Tracer with Android API (Masters Project) –

<https://github.com/chirambaht/Action-Tracer>

Assessment of LoRa and IEEE802.15.4 suitability for asset tracking across an urban environment (Undergraduate Project) –

<https://github.com/chirambaht/Assessment-of-LoRa-and-IEEE802.15.4-suitability-for-asset-tracking-across-an-urban-environment>

Recoup - <http://chirambaht.pythonanywhere.com/>

1st place winner in a holiday project competition held by the UCT Developers Society and SOLIDitech

Soupd Up - <https://soupdup.chirambaht.info/>

A small venture I worked on with a friend to create a recipe application. We managed to release a beta test, based on market research.

References

Jane Wyngaard - *Director of Firmware at Plentify (Undergraduate supervisor)*

Email: jane@plentify.co.za

Simon Winberg - *Associate Professor at the University of Cape Town (Masters supervisor)*

Email: simon.winberg@uct.ac.za

Paul Mesarcik - *Director at Lumkani*

Email: paul@lumkani.com