

# Samuel Mbiya

📧 [samuelmbiya@gmail.com](mailto:samuelmbiya@gmail.com)  
📧 [samuelmbiya@gmail.com](mailto:samuelmbiya@gmail.com)

in [/samuelkmbiya](#)  
📺 [/samuelmbiya](#)  
📞 +27 68 259 9616

## 🎓 Education

### University of Cape Town

BScEng Electrical and Computer Engineering

Feb. 2018 – Jun. 2022

Cape Town, South Africa

- Focus areas of coursework - Embedded Systems, Signal Processing, Computer Science, Electronics
- Research project - *Evaluating the MIT S-band coffee can radar as an educational tool* (Supervisor: Dr Y. Abdul Gaffar)
- Activities & Societies - Developer's Society, Google Developer Student Club (DSC-UCT), Entrepreneur's Society and Crypto & AI Society

### Lyttelton Manor Highschool

National Senior Certificate

Jan. 2013 – Dec. 2017

Pretoria, South Africa

- Activities & Societies - Rugby, Athletics, Photography and Representative Council of Learners (RCL) Committee

## ⚙️ Courses

### University of Toronto

Self-Driving Cars Specialisation

Aug. 2022 – present

Online/Coursera

- This is an ongoing course that I've enrolled in due to my interest in autonomous vehicles. The course is helping me develop skills and knowledge in Autonomous vehicle technology. The course covers an Introduction to Self-Driving Cars, State Estimation and Localisation for Self-Driving Cars, Visual Perception and Motion Planning

## 🛠️ Skills

**Personal** Self-motivation, Problem solving and resourcefulness, Teamwork, Leadership, Communication, Fast-learner

**Spoken Languages** English (Fluent), French (Professional working proficiency)

**Technical** Programming - Python, Matlab, Java, Julia, C/C++, Verilog

Software development tools - Git, Github, VS Code, Jupyter Lab/Notebook, Linux CLI

Electronics - Soldering, Breadboard prototyping, Circuit design (with LTSpice), Microcontroller programming

## ⚙️ Work Experience

### Council for Scientific and Industrial Research

Graduate In Training

Nov. 2022 – present

Pretoria, South Africa

- Working on Electronic Warfare Support Measures (ESM) research and software development (Matlab) in the Digital Electronic Warfare Research Group at the CSIR.

### University of Cape Town

Tutor: Electrical Engineering Design Principles (EEE3088F)

Feb. 2022 – Jun. 2022

Cape Town, South Africa

- Involved marking tests, assignments and project submissions
- Involved mentoring 4 teams throughout their course project, which involved designing and fabricating an environment sensing expansion board (HAT) for the STM32 discovery board.
- Students were exposed to circuit board design using KiCAD 6.0 and collaborative tools for version control and documentation such as Git and Github

### Council for Scientific and Industrial Research

Vacation Work Student Intern

Nov. 2021 – Feb. 2022

Pretoria, South Africa

- Worked in the Defense and Security Unit: Digital Electronic Warfare Research Group
- Involved benchmarking the performance of deep learning models for a classification problem in Electronic Warfare Support Measures (ESM), using Python (together with TensorFlow and PyTorch) and Julia (together with MLJFlux and Flux)
- Gained practical experience in applied Machine Learning (Deep Learning)

## **Council for Scientific and Industrial Research**

*Vacation Work Student Intern*

Jul 2021

Pretoria, South Africa

- › Worked in the Defense and Security Unit: Digital Electronic Warfare Research Group
- › Involved an investigation on the use of deep learning models for a classification problem in Electronic Warfare Support Measures (ESM), using Julia and Julia ML packages (MLJFlux and Flux)
- › Gained practical experience in applied Machine Learning (Deep Learning)

## **Council for Scientific and Industrial Research**

*Vacation Work Student Intern*

Dec. 2019

Pretoria, South Africa

- › Worked in the Defense and Security Unit: Digital Electronic Warfare Research Group
- › Involved writing a script using Python and OpenCV for the segmentation and extraction of spectrogram images
- › Gained practical experience and was exposed to concepts in Radar, Electronic Warfare and Computer Vision

## **Council for Scientific and Industrial Research**

*Vacation Work Student Intern*

Jun. 2019 – Jul. 2019

Pretoria, South Africa

- › Worked in the Next Gen. Enterprises and Institutions Unit
- › Involved working in a team on the design and development of workplace peer review web application using a modern web development stack and collaboration tools, such as ReactJS, SQL, Github and Trello
- › Exposed to web development and agile software development; performed the role of scrum master, facilitating weekly stand-up meetings

## **Volunteer Experience**

### **University of Cape Town**

*Faculty Mentor*

Mar. 2021 – Dec. 2021

Cape Town, South Africa

- › Part of the Dept. of Electrical Engineering First Years Mentorship Team
- › Involved providing mentorship to a group of 3 first year Electrical Engineering students, through advice and resources to enable them to successfully navigate through their first year of engineering studies at university

### **Google Developers Student Club UCT**

*Technical Mentor*

Oct. 2020 – Oct. 2021

Cape Town, South Africa

- › Ideation and planning of hackathons, together with the Core DSC-UCT Committee
- › Providing technical support for DSC-UCT hosted hackathons
- › Facilitated a progress report session, during the 2021 DSC-UCTxYOCO Hackathon

### **University of Cape Town**

*Residence Mentor*

Oct. 2018 – Oct. 2019

Cape Town, South Africa

- › Part of the 2019 Leo Marquard Hall Mentorship Team
- › Helped incoming first year students, through advice and guidance to enable them to easily navigate through their first year of university

### **TeachOut**

*Logistics Coordinator*

Oct. 2018 – May 2019

Cape Town, South Africa

- › Communicated with teachers and educators to set up tutoring sessions at different schools and youth centres
- › Organised transport for tutors to go to tutoring sessions

### **TeachOut**

*Tutor*

Aug. 2018 – Oct. 2018

Cape Town, South Africa

- › Tutored highschool learners, Maths and Science, in less privileged learning centres and schools in and around Phillipini community, in Cape Town, South Africa