

## **PERSONAL PROFILE**

Currently completing final year in BSc in Electrical and Electronic Engineering, at the University of Cape Town. Interested in application of knowledge in solving technical and social challenges, using user-centred design thinking. Primarily interested in application of communication and network engineering in connecting the unconnected. Hold a couple of awards in the academic sphere and been exposed to design thinking and case-study consulting.

## **EDUCATION**

2016 - Present: **Bachelor of Sciences in Engineering in Electrical, Electronic and Telecommunication Engineering.**

- Top student in 2<sup>nd</sup> and 3<sup>rd</sup> year in my degree programme with a current cumulative GPA of 84%.
- Dean's Merit List (2016/7/8), Kopano (2016/7) and Liesbeeck residence awards (2018).
- Top student in Maths 1A (2016) and within top 15% in Computer Science 1 B (2016).

2012 - 2015: **National Senior Certificate: Matshumane Secondary School and Kutlwanong centre, Glen Cowie.**

- Achieved distinctions in all 7 subjects with 91% average.
- Top learner in school on average and 100% in Physical Sciences. Position 26 in Limpopo, 3<sup>rd</sup> in the district.

## **WORK EXPERIENCE AND TRAINING**

February 2019 - Present: **Tutor: Signals and Systems II (3<sup>rd</sup> year) - Department of Electrical Engineering, UCT.**

- Assisting students with conceptual understanding and questions relating to signals processing.

January 2019 - February 2019: **Vacation Work (4 weeks): Networks Group - MTN SA, Western Cape Region.**

- Exposure to planning and operations of mobile cellular communication base stations and Transmission links.

November 2018 - December 2018: **Vacation Work (5 weeks): INFRA Electrical - PRASA, Western Cape Region.**

- Exposure to high voltage engineering, DC and AC substations' operations. Worked on distribution lines and fault findings as well as line restorations. Maintenance work and testing on the network equipment.

February 2018 - June 2018: **Tutor: Embedded Systems I (2<sup>nd</sup> year) - Department of Electrical Engineering, UCT.**

- Helping students with technical and theoretical questions in digital logic labs and marking their lab reports.

November 2017 - December 2017: **Practical Training (2 weeks) - Cape Peninsula University of Technology, Bellville.**

- Exposure in welding, fitting and turning, CNC programming, metrology, pneumatics and robotics.

January 2017 - December 2017: **General Executive Secretary - Promaths/Kutlwanong Alumni Society, UCT.**

- Responsibilities included planning of events with the executive team, reporting and communications.

January 2017 - December 2017: **Floor Mentor: Brown Block - Kopano residence, UCT**

- Aimed at easing the settlement and adjustment of first years into university life. Handled necessary floor admin.

## **ACHIEVEMENTS**

**April 2019:** Selected Top 8 finalists of 150 for the entrepreneurship UCT Pitch competition 2019 and won first prize in the ideation phase category.

**July 2018:** Participated in One Deloitte Vac School, Deloitte SA (Johannesburg): An intense week of company culture and operations exposure and worked on a consulting case study. Won the best overall team of the week award.

**December 2018:** Participated in a KPMG Innovation and Collaboration Challenge (KICC) and participated in the national final round of idea presentation at KPMG South Africa.

**2017 - Present:** Member of the Golden Key International Honour Society (UCT) - academic excellence recognition.

## **PROJECTS**

### **AM Transistor radio.**

Designed, built and tested an AM radio built with discrete components during the 2018 June holidays. The project involved acquisition, amplification and extraction of voice signals from modulated waves with noise.

### **Microcontroller-controlled Power supply**

In a design group, designed and built a switch mode power supply. Used an SPI communication to interface between microcontrollers for output parameters' control.

### **Wind farm simulations design**

Presented with real wind speeds data logged for Western Cape in 5 minutes intervals for 6 months, performed data cleaning, processing and then designed and simulated the system using Matlab.

### **Diesel Prices Database**

Designed and implemented a simple Diesel prices Excel database for the Western Cape province.

## **SKILLS**

### **Communication**

- Fluent in Sepedi and English and conversational in Sotho, Tswana and Zulu.
- Developed public speaking skills through the Promaths meetings and tutoring.

### **Computer Literacy and Engineering Software tools**

- Proficient in Microsoft® Word™, Excel™ and PowerPoint™. Excellent in Windows OS and basic in Linux.
- Matlab, Matplotlib, LTSpice, basic SolidWorks, Logisim, Altium, STM32f0, Arduino, FEKO, PSCAD.
- **Programming:** Proficient in Python. Basic Java and C programming. SDN programming with Mininet.
- **Basic Machining** (CNC programming, F/Turning-Lathe, Welding).

### **Teaching and Tutoring**

- Tutor for department level courses, Embedded Systems for 2<sup>nd</sup> years and Signals and Systems for 3<sup>rd</sup> years.

### **Leadership and Teamwork**

- Worked with Promaths Alumni executive team to plan and execute events, such an outdoor connect event.
- Participated in the mentorship team in Kopano Residence to find good ways to assist first years with their needs.

## **REFEREES**

A/Prof AJ Wilkinson, Senior Lecturer (Signals and Systems, Electromagnetics): Department of Electrical Engineering, University of Cape Town, [andrew.wilkinson@uct.ac.za](mailto:andrew.wilkinson@uct.ac.za), 082 728 6612.

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