EVANS LEKOBA TJABADI

Network Engineering Student

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Personal Profile

Currently completing final year in BSc (Eng) in Electrical and Electronic Engineering, at the University of Cape Town. Interested in the 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 and bettering the experience of the connected. 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 Electrical, Electronic and Telecommunication Engineering.**

- Mobile and Wireless Networks, Microwave Engineering, Digital Signal Processing and Communication Engineering
- Top student in 2nd and 3rd 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, 3rd in the district.

Work Experience and Training

January 2019 - Present: **Treasury - Every Nation Campus (His People) Society, UCT**.

- Key contributions include overall financial planning of events, help with invoicing and processing of orders, keeping and preparation of financial documents.

February 2019 - June 2019: **Tutor: Signals & Systems II (3rd year) - Department of Electrical Engineering, UCT.**

- Assisted students with conceptual understanding and questions relating to analogue signals processing. Helped with laboratories and marking of tests and lab reports.

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 (2nd 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.**

- 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.

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 the acquisition, amplification and extraction of voice signals from modulated waves with noise.

Joint Call Admission Control Scheme for Heterogeneous Network
The project involved evaluation of current schemes, design and implementation of the code algorithm and performance evaluation of the scheme with numerical simulations (python, matplotlib).

Communication Link Delays
Used Mininet network emulator to investigate delays in communication between two hosts, experimented of different SDN switches to reduce nodal processing delays and maximise the physical distance for a given round-trip-time.

Horn Antenna Project
Mathematically designed, simulated an 8.25 GHz horn antenna using CST software. Fabricated the horn antenna with cardboard and aluminium foil and tested the antenna in receiver mode with a network analyser.

Skills

Communication

- Fluent in Sepedi and English and conversational in Sotho, Tswana and Zulu.
- Developed public speaking skills through Promaths society meetings, tutoring on campus and pitching presentations.

Teaching and Tutoring

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

Leadership and Teamwork

- Worked with Promaths Alumni and Every Nation EXCO teams to plan and execute society campus events.
- Participated in the mentorship team in Kopano Residence to find good ways to assist first years with their needs.

Technical Skills and Engineering Software Tools

- Proficient in Microsoft® Word™, Excel™ and PowerPoint™. Excellent in Windows OS and moderate in Linux.
- MATLAB, LTSpice, basic SolidWorks, Logisim, Altium, STM32f0, Arduino, FEKO, PSCAD.
- **Programming:** Proficient in Python (including matplotlib). Basic Java and C programming. SDN programming with Mininet.
- Moderate in HTML, CSS, PHP and server administration with SSH on Digitalocean.

Referees

A/Prof AJ Wilkinson, Senior Lecturer (Signals and Systems, Electromagnetics): Department of Electrical Engineering, University of Cape Town, andrew.wilkinson@uct.ac.za, +27 82 728 6612.

A/Prof OE Falowo, Senior Lecturer (Mobile & Wireless Networks, Telecommunications): Department of Electrical Engineering, University of Cape Town, olabisi.falowo@uct.ac.za, +27 21 650 2788.