LEARN LEAGO CHILOANE

Electrical & Information Engineering Honours Student

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PROFESSIONAL SUMMARY

- Strong familiarity with programming languages: C++, JavaScript and Assembly.
- Practical design and operation of electrical machines (AC/DC-DC converters, three phase transformers, induction motors); using arduino for development projects.
- Knowledgeable with Mechanical Design and 3D CAD Software, Autodesk Inventor.

EXPERIENCE

Research Assistant

Transnet Matlafatšo Center (TMC)

Nov 2019 – Feb 2020 Gauteng, Johannesburg

- Developing an arduino project for a self-driving servo car which can detect and avoid obstacles in its path, with a wireless user-interface control feature.
- Researching on the Mofokeng technologies project, titled as "3D Printed Clamps Fittings on Roof Sheetings" and designing CAD drawings of the roof sheets using Autodesk Inventor.

Laboratory Assistant

Genmin Laboratories, University of the Witwatersrand

Dec 2018 – Feb 2019 Gauteng, Johannesburg

- Designing and constructing an electrical off-grid solar system that helped in the development of the laboratories.
- Engaged on a different design project for understanding of proper utilization on electrical inverters.

ACADEMIC ACHIEVEMENTS

University of the Witwatersrand

2018

- Top 15%

2018

- Dean's List, Top 15%
- Barnato Halls of Residence Top Student (Position 1)

2017

- University Entrance Scholarship
- Dean's List, Top 15%
- Knockando Halls of Residence Top Student (Position 2)

Mpumalanga Matric Provincial Awards

2016

- Top Student (Position 14)
- Best Applicant in Mathematics and Physical Sciences

Lekete High School

2016

- Mpumalanga Department of Education SAICA Camp Top 50 Applicant.
- Grade 12 Top Learner (Position 1).

EDUCATION

University of the Witwatersrand, Johannesburg

BSc in Engineering (Electrical)

2017 - Present Gauteng, Johannesburg

- Year of Study: 4 of 4
- Main Courses: Electronics, Microprocessors, Software Development, Control, Power Systems, Signal & Systems, Power Engineering, Electromagnetic Engineering, Measurement Systems.

Lekete High School

National Senior Certificate

2012 - 2016 Mpumalanga, Acornhoek

- Highest Grade Passed: Grade 12
- Main Subjects: Mathematics, Physical Sciences, Engineering Graphics and Design, Electrical Technology, Sepedi HL, English FAL.

LANGUAGES

English ●●●●●
Sepedi ●●●●●
Xitsonga ●●●●○
isiZulu ●●●○○

PROGRAMMING

C++ ●●●●●
C ●●●●○
Assembly ●●●●○
JavaScipt ●●●○○
LaTeX ●●●○○
MATLAB® ●●●○○

SOFTWARE TOOLS

Multisim™ ●●●●●
LTspice® ●●●●●
Microsoft® Office ●●●●●
Git ●●●●●
Arduino ●●●●○
Autodesk Inventor® ●●●○○
Simulink® ●●●○○

ELECTRICAL MACHINES

AC/DC-DC Converter ●●●●○
Induction Motor ●●●○○
Three Phase Transformer ●●●○○

LEADERSHIP/VOLUNTEERSHIP

Winter school organiser and tutor

June - July 2017 | Lekete High School, Acornhoek

- Organised a winter school program for matric learners around Arthurseat circuit and tutored Mathematics and Physical Sciences subjects.

Res mentor

Mar 2020 – Present | Wits University, Johannesburg

- Mentoring and tutoring first year Engineering students on how to navigate and survive in the university field. The courses tutored include all the first year Engineering courses.

PROJECTS

Programming

- Designing and implementing an object-oriented arcade game such as Space Invaders using C++ (version 17) programming language.
- Designing and implementing the Buzzer game which involves the Arduino AVR micro-controller and various circuit components using assembly language.
- Designing games like X's and O's/ Tic Tac Toe and solving problems in hypothetical situations using C++ programming language.

Electronics

- Designing and implementing a flyback dc-dc converter that emulates the characteristics of a lead acid battery.
- Designing and implementing an electronic circuit that models power production of a house's solar photo-voltaic and battery system.
- Designing and implementing a temperature control prototype that automatically maintains indoor space temperature within a specific range using temperature sensors, air cooler and LEDs.

REFERENCES

Mr. Moses Mogotlane

Transnet Matlafatšo Centre Manager

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Mr. Mashego D.D

Lekete High School Teacher

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