

# LEARN LEAGO CHILOANE

## Electrical & Information Engineering Honours Student

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## PROFESSIONAL SUMMARY

- Practical design and operation of electrical machines (AC/DC-DC converters, three phase transformers, induction motors) and basic electrical tools.
- Strong familiarity with programming languages: AVR Assembly and C++.
- Knowledgeable with Mechanical Design and 3D CAD Software (Autodesk Inventor).

## EXPERIENCE

### Research Assistant

#### Transnet Matlafatso Center (TMC), University of the Witwatersrand

📅 Dec 2019 – Present

📍 Gauteng, Johannesburg

- Researching on the Mofokeng-technologies's "rooftop clamp fittings" for three different roof sheets and designing 3D-prints of roof sheets using Autodesk Inventor.

### Laboratory Assistant

#### Genmin Laboratories, University of the Witwatersrand

📅 Dec 2018 – Feb 2019

📍 Gauteng, Johannesburg

- Designed and constructed a solar-powered system prototype that helped in the development of the laboratories.
- Engaged on a different design project for understanding of proper utilization on DC-DC inverters.

## ACADEMIC ACHIEVEMENTS

### University of the Witwatersrand

📅 2018

- Dean's List.
- Barnato Halls of Residence Top Student (Position 1).

📅 2017

- University Entrance Scholarship.
- Dean's List.
- 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 Subjects: Electronics, Microprocessors, Software Development, Power Engineering, Electromagnetic Engineering, Control, Signal & Systems.

### Lekete High School

#### National Senior Certificate

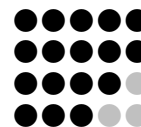
📅 2012 - 2016

📍 Mpumalanga, Acornhoek

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

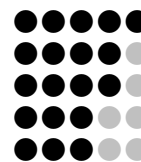
## LANGUAGES

English  
Sepedi  
Xitsonga  
isiZulu



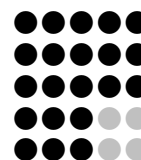
## PROGRAMMING

C++  
C  
AVR Assembly  
L<sup>A</sup>T<sub>E</sub>X  
MATLAB®



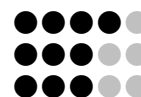
## SOFTWARE TOOLS

Multisim™  
LTspice®  
Microsoft® Office  
Autodesk Inventor®  
Simulink®



## ELECTRICAL MACHINES

AC/DC-DC Converter  
Induction Motor  
Three Phase Transformer



## LEADERSHIP/VOLUNTEERSHIP

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- Organised a winter school program for matric learners around Arthurseat circuit at Lekete High School and tutored Mathematics and Physical Sciences subjects (2 weeks).

## PROJECTS

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### Electronics

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

### Programming

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

## REFERENCES

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Prof. Willie Cronje

University of the Witwatersrand, Genmin  
Laboratories Employer

TELL: 011 717 7224

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Mr Mashego D.D

Lekete High School Teacher

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