

## **Professional profile.**

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I am an Electrical and Electronic graduate engineer. Being in the field of Engineering and technology, I have embraced innovations in fields like telecommunication, Internet of Things (IoT), Artificial Intelligence (AI), machine learning, deep learning, data science, software development and renewable energy to bridge engineering and digital transformation gap. I have also worked in fields pertaining to power generation, transmission, protection, controls, marketing, billing and maintenance, designs of efficient and sustainable grids, conservation of energy, water, wildlife and environmental conservation. In my career development I trained in a busy power production company, research and information technology firms as well as a Radio station.

## **Work Experience.**

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### **Networks for Learning Africa (N4LA) Ltd**

*IoT Solutions Engineer*

- Building Artificial Intelligence solutions
- Analytics Application design and development
- Data visualization
- Building data pipelines
- Cloud servers setup, management, handling and Iot Platforms
- Building IoT and embedded systems
- Setting up and connecting devices on Long Range Wide area Network (LoRaWAN)
- Research on IoT communication protocols (LoRAWAN, Bluetooth Low Energy (BLE))

**Nyeri, Kenya**

*Jan 2021 – Date*

### **Center for Data Science and Artificial Intelligence (DSAIL) - Dedan Kimathi University of Technology**

*Research - Intern*

- Building Artificial Intelligence solutions
- Image processing with deep learning algorithms
- Data analysis and visualization
- Building data pipelines
- Cloud servers handling and Iot Platforms
- Building Internet of Things and embedded systems
- Research on IoT communication protocols (LoRAWAN, Bluetooth Low Energy (BLE))

**Nyeri, Kenya**

*Jan 2020 – Dec 2020*

### **Networks for Learning Africa (N4LA) Ltd**

*IoT Solutions Engineer - Intern*

- Designing IoT hardware devices and fabrication for remote deployment and data collection.
- Developing websites, web applications and IoT platforms to consume Internet of Things (IoT) data.
- Programming IoT devices for agriculture, energy, asset tracking, facility management, water, wildlife and environmental conservation applications.
- Running, operating and maintaining cloud servers and databases.
- Research on Long range Wide Area Network (LoRAWAN)

**Nyeri, Kenya**

*Feb 2019 – Dec 2019*

### **Homeboyz Entertainment Ltd**

*Data Scientist -Intern.*

**Nairobi, Kenya**

*Feb 2018 – May 2018*

- Building data science infrastructure to store, curate, clean, analyse and visualize data for administrative decision making purposes.
- Development of reactive web applications for clients and internal use.
- Performing twitter sentimental analysis and mapping for Radio programs.
- Fixing IT problems in the company.
- Designing and building machine learning systems.
- Social media data mining

### **Iberafrica (EA) Power Ltd**

*Control and operations Engineer- Intern*

**Nairobi, Kenya**

*Jan 2017 – April 2017*

- Conducting preventive electrical maintenance, isolation and protection.
- Testing of cables at power dispatch substations.
- Operating PLCs, SCADA systems for information interpretation.
- Servicing of motors, purifiers, cooling system, boilers and lube oil separators.
- Starting and stopping of Engines for power dispatch.
- Reverse Osmosis (RO) operation and General plant monitoring.

### **Dedan Kimathi University of Technology**

*Student leader- Representative.*

**Nyeri, Kenya**

*Sept 2014 – April 2019*

- Administration on student welfare.
- Conveying and bridging information channels between students and administration.
- Organising and managing student activities.

## **Education**

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### **B.Sc. Electrical and Electronic Engineering**

*Undergraduate Degree.*

**Dedan Kimathi University of Technology**

*Sept 2014 – April 2019*

- Taking courses relating to electrical and electronic engineering.
- Participating in national, industrial and university innovation and technology competitions.
- Co-authored a conference paper titled ‘**Long Range Low Power Sensor Networks for Agricultural Monitoring - A Case Study in Kenya**’.

### **Human Research Data or Specimens Only Research (Course)**

*Research course*

**CITI-MIT**

*Jan 2020*

- Taking course on human subjects research ethics and policies.

## **Computer Skills and Languages**

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- Programming C/C++, Python, html, Css, PhP, bootstrap and Scala.
- Matlab, Git, pycharm, code blocks, sublime text, visual studio.
- Pspice, Power World, Constructor, Proteus, Eagle, Circuitmaker, Kicad, Drawing and design.
- Researching.
- Web apps, website design and development, and AWS, GCP cloud servers handling.

### **Working Knowledge:**

- Hadoop, Mesos, Akka, Kafka, Apache Spark and other open source data processing tools.
- Anaconda, google colab, SQL and NoSQL databases.
- Tableau, Grafana, Chronograf and Keyhole.
- Electrical systems design, control and maintenance.
- Programmable Circuit Board (PCB) design and fabrication.

- Leadership.

**Languages:** English and Kiswahili.

### **Achievements and Activities.**

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#### **Hackers.io**

May 2020

*Covid-19 detect and protect challenge 2020*

- Award winning fever surveillance connected IoT thermal guns system.

#### **Deep Learning Indaba**

Aug 2019

*Internet of Things Training (IoT) Session*

- Facilitating training of IoT maker sessions.

#### **Capital Market University Challenge (CMA) 2018**

2018/2019

*CMA University Challenge 2018/2019*

- CMA competition winner and CMA university representative DeKUT, Kenya.

#### **World Energy Day (WED).**

Oct 2018

*WED University Student Energy Innovation Challenge, Kenya*

- Won the World Energy Day Student Energy Innovation Challenge 2018 (2<sup>nd</sup> runners up).

#### **Data Science Africa (DSA).**

*Summer school workshop, Kenya*

May 2018- June 2018

- Trained on data science, machine learning and IoT.
- Gave a presentation on IoT and data science projects.
- Building Internet of Things (IoT) prototypes and doing remote deployment for data collection at the university.

#### **Data Science Africa (DSA).**

*Summer school, Tanzania*

July 2017

- Trained on Artificial Intelligence (AI), machine learning, IoT and data science methods.

### **Hobbies and Interests.**

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- Programming, multimedia and traveling
- Blogging on technology <https://jaredmaks.medium.com> or on personal website [www.jaredmakario.com](http://www.jaredmakario.com)

### **References.**

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Available on request