

Resume – Feb 2021

SUMMARY:

Ignatius Waikwa Maranga

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KALIMONI

BSc. Electrical and Electronic Engineering, JKUAT

PgDip. Project Planning and Management, UoN-Ongoing (April 2021)

MSc. Electrical Engineering, Power Systems, JKUAT-Ongoing (Nov 2021)

Date of Birth: 5th February 1994

EDUCATION:

Primary School: Kenya Certificate of Primary Education (KCPE), *Makena Primary School* (2001 - 2007)

Secondary School: Kenya Certificate of Secondary Education (KCSE), *Machakos School* (2008 - 2011)

University Education:

1. BSc. Electrical and Electronic Engineering, *Jomo Kenyatta University of Agriculture & Technology* (September 2012 – June 2017).
2. PGD. Project Planning and Management, *University of Nairobi* (January 2019 – April 2021).
3. MSc. Electrical Engineering, Power Systems, *Jomo Kenyatta University of Agriculture & Technology* (October 2019 – November 2021).

SKILLS:

Project Design and Implementation
Energy Audits.
CAD Design.
Project Monitoring and Evaluation.

Renewable Energy Systems Design and Sizing.
Power System Analysis.
Training and Curriculum Development.

Languages

Fluent English and Kiswahili (Written and Oral).

COMPETENCY DEVELOPMENT:

Publications

- Ignatius Waikwa Maranga – ‘Demand Side Management of Large Power Consumers in Kenya’- 23rd Engineers International Conference, **Institution of Engineers of Kenya (IEK)**, 2016.
- Ignatius Waikwa Maranga – ‘Design of A Real Time Energy Monitoring System Using Power Line Carrier Communication’- 24th Engineers International Conference, **Institution of Engineers of Kenya (IEK)**, 2017.

- Ignatius Waikwa Maranga – ‘*Comparison between Power Line Carrier Communication Based Metering, GSM Based Metering & Keypad-Operated Metering in Kenya*’- 2017 Scientific Research and Innovation (SRI) Conference, **Jomo Kenyatta University of Agriculture and Technology (JKUAT)**, 2017.
- Ignatius Waikwa Maranga – ‘*Comparison between Power Line Carrier Communication Based Metering, GSM Based Metering & Keypad-Operated Metering in Kenya*’- 1st **Triple Helix Association** Conference, Nairobi Kenya, 2017.
- Ignatius Waikwa Maranga – ‘*Performance Evaluation of the Strathmore University 600kW Sytem in Kenya*’- **iPVTC** Conference, France, 2018.
- Ignatius Waikwa Maranga – ‘*Toward the Development of a Small Hydro Plants Training in Kenya*’- **Hydro** Conference, Gdansk Poland, 2018.
- Ignatius Waikwa Maranga – ‘*Design and Testing of a Solar – Powered Tricycle in Kenya*’ - **IDETC** Conference, USA, 2019.

Training and Skills Development

- Mobile Applications Programming – eMobilis Mobile Technology Institute, 2012
- T1, T2 Solar PV Design and Installation – Strathmore Energy Research Center (SERC), 2017
- T3 Solar PV Design and Installation – Strathmore Energy Research Center (SERC), 2018
- Introduction to Micro Grid Academy – Kenya Power Institute of Energy Research Studies, 2018
- Open Africa Power – Enel Foundation, 2018
- Regulation for Universal Access to Energy – Florence School of Regulation, 2018
- Solar Water Pumping Course - Strathmore Energy Research Center (SERC), 2018
- Biogas Training - Strathmore Energy Research Center (SERC), 2018
- Micro Grid Academy – University of Zambia, 2018
- Micro Grid Academy – Kenya Power Institute of Energy Research Studies, 2019

Certifications and Licenses

- Energy & Petroleum Regulatory Authority (EPRA) Solar PV T3 License
- Energy & Petroleum Regulatory Authority (EPRA) Solar Water Heating License
- Energy & Petroleum Regulatory Authority (EPRA) Electrical Technician C-1 License
- Professional Energy Manager (PEM) Candidate – Energy University, Schneider Electric

Innovation and Projects

- Annual JKUAT Tech Expo 4.0 (2013) – **Automatic Car Headlight Dimmer.**
- Annual JKUAT Tech Expo 5.0 (2014) – **Water Level Indicator.**
- Annual JKUAT Tech Expo 6.0 (2015) – **Level Check.**

- 16th Annual IEEE ESEK Expo (2015) – **Level Indicator.**
- Annual JKUAT Tech Expo 7.0 (2016) – **Smart Power System.**
- 17th Annual IEEE ESEK Expo (2017) – **Smart Power System.**
- Final Year Project (2017) - **Design Of A Real Time Energy Monitoring System Using Power Line Communication**
- **Solar E Cycle – 2018**

Experience

- **Samil Engineering Services (SES) Ltd (May 2013 to August 2013) – Industrial attachment.**

Design, Construction, Installation and Commissioning of switchboard panels.

- **Kenya Power (May 2014 to August 2014) – Industrial attachment.**

Design and Construction of new distribution lines, Operation and Maintenance of existing distribution lines, monitoring of high voltage transmission lines, construction and maintenance of sub stations and protection of the distribution system.

- **Kenya Electricity Generating Company, KenGen (May 2015 to August 2015) – Industrial Attachment.**

Energy Audits for generating stations, Outage analysis for all KenGen generating stations.

- **Samil Engineering Services (SES) Ltd (May 2016 to August 2016) – Industrial attachment.**

Installation of Kenya Power smart meters for large power consumers, Design, Construction, Installation and Commissioning of switch board panels, Energy Audits.

- **Samil Engineering Services (SES) Ltd (July 2017 to December 2017) – Graduate Trainee Engineer.**

Installation of Solar PV – 10kW Solar Water Pumping System in Timau, 5kW Stand Alone System in Kikuyu, Solar Water Heating Systems and Electrical Installations.

- **Engineering For Change (E4C) Research Fellow (May 2018 to November 2018) – Energy**

Research on Energy for Development Solutions used globally.

- **Strathmore Energy Research Center (January 2018 to Date) – Research Assistant.**

Renewable Energy Research, Testing of Components in a Solar PV System (Batteries, Panels, Charge Controllers), Testing of LED Bulbs, Maintenance of the 600kW Strathmore University Grid-Tied Solar PV System, Solar PV Trainer and Consultant in Renewable Energy projects – Design and conducting of feasibility studies, and Design and Implementation of E-Mobility solutions.

Professional Body Memberships

- Project Management Institute (PMI) – Member
- American Society of Mechanical Engineers (ASME) – Graduate Student
- Institute of Electrical and Electronic Engineers (IEEE) – Graduate Member.
- Institution of Engineering and Technology - UK (IET) – Member.
- Association of Energy Professionals Eastern Africa (AEP-EA), a local chapter of the Association of Energy Engineers, US (AEE) – Graduate Member.
- Institution of Engineers of Kenya (IEK) – Graduate Member.
- Engineering Board of Kenya (EBK) – Graduate Member.

Volunteer Experience

- Student Representative, IEEE Kenya Section – January 2017 – December 2017
- Student Representative, AEP – Eastern Africa – June 2016 – December 2017
- Membership Development Chair – IEEE Kenya Section – January 2018 – Date
- Executive Committee Member in Operations – AEP – Eastern Africa – January 2018 to Date
- Chair, TC 85 – Electric Lamps and Lighting Appliances – Kenya Bureau of Standards (KEBS)

Awards

- Best Delegate of the Economic and Finance Committee at the 15th Annual Kenya Model United Nations (KMUN) Conference in UNON Gigiri, 2016.
- Best Delegate of the Disarmament and International Security Committee at the 16th Annual Kenya Model United Nations (KMUN) Conference in UNON Gigiri, 2017.
- Outstanding Student Member of the year 2016 – IEEE Kenya Section.
- Second Best Innovative Project at the 17th Annual IEEE Expo, 2017.
- Engineering For Change Research Fellowship, 2018
- Valeo Innovation Challenge Finalist – **Solar E Cycle**, France, 2018
- Valeo Innovation Challenge First Place Winner – **Solar E Cycle**, France, 2018
- Initiate! Challenge First Place Winner – Africa Utility Week, South Africa, 2019

INTERESTS:

Energy Management.
Project Management.
Power Systems – Generation, Transmission and Distribution.
Renewable Energy.
CAD Design.
Rugby.

REFEREES:

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