

# Balarabe Nkom, Ph.D

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## CAREER PROFILE

An adaptable, ingenious and enthusiastic electrical/instrumentation engineer, data scientist and resource manager who has been primarily but not exclusively involved with power and energy system control and protection, socio-economic policy adoption, and market strategy; and is also dedicated to team-driven innovation in tandem with health, safety and well-being awareness, industry-specific quality assurance, general regulatory compliance, and sustainability.

## SKILLS, REGISTRATION, LICENSING, CERTIFICATION AND PUBLICATION SUMMARY

- Design, installation and maintenance of electrical, instrumentation and electromechanical systems using PowerFactory, NI LabVIEW and similar software.
- Design, simulation and analysis of distributed generation, energy storage and general grid power systems using ATP, PSS SINCAL and Opal RT.
- Design, simulation and field optimization of electronic and embedded (IoT) systems using MPLAB X IDE, NI Multisim, NI Ultiboard and ANSYS Multiphysics.
- Implementation of measurement, control and automation algorithms on Unitronic programmable logic controllers (PLCs) using UniLogic.
- Customized algorithm design and implementation using C/C++, Java, Python and MATLAB/Simulink.
- System characterization and modeling using empirical, analytical and hybrid approaches: <https://aut.researchgateway.ac.nz/handle/10292/11042>
- Coding and application development on MS Visual Studio, MS Azure, IBM Cloud, and Apache NetBeans: <https://github.com/ballyauck>
- SiteSafe New Zealand Registered Electrical Worker (ID 469,876).
- EWRB New Zealand Practicing License: <https://ewrb.ewr.govt.nz/PublicRegister/Search.aspx>
- Data Science-focused IBM Credentials: <https://www.youracclaim.com/users/balarabe-nkom>
- IBM Applied Data Science Specialization: <https://www.coursera.org/account/accomplishments/specialization/9FC84NYW9HCH>
- IBM Data Science Professional Certificate: <https://www.coursera.org/account/accomplishments/specialization/certificate/ARXYA6MJY4>
- Certified Management Consultant (CMC).
- Research Publications: [https://www.researchgate.net/profile/Balarabe\\_Nkom2/publications](https://www.researchgate.net/profile/Balarabe_Nkom2/publications)

## PROFESSIONAL EXPERIENCE

- Yuccan International Limited: [www.yuccantech.com](http://www.yuccantech.com)  
Jan 2020 – Date: Chief Consultant.  
*Responsible for acquiring and coordinating resources for the design and deployment of data-centric concepts and approaches for clients, and leading research efforts in Data Science tools and methodologies.*
- Electrical and Electronic Engineering Department, Auckland University of Technology.  
Jul – Nov 2019: Lecturer.  
*Course co-developer and sole examiner for ENEL803, Electrical Design and Protection, in accordance with AS/NZS 3000 and other relevant Standards and Codes of Practice.*  
May 2013 – Dec 2017, Jan – Apr 2019: Teaching Assistant/Researcher.  
*Laboratory tutor and supervisor for 735909 (now ENEL506), Elements of Power Engineering. Researcher and product/process developer for distribution grid powerline communication and smart grid concepts.*
- Center for Energy Research and Training (CERT).  
Oct 2015 – Jan 2019: Chief Technical Officer.  
*Project initiator and primary planner for a virtual instrumentation platform for network control of laboratory sensors and actuators; Project initiator and primary planner for intelligent laboratory power supplies.*  
Oct 2011 – Sep 2015: Assistant Chief Technical Officer and Electronics Team Leader.  
*Proactive creator of a knowledge base for engineering project design, development, implementation and maintenance, using Oracle DB. Designer of CERT energy meter network and energy monitoring template. Internal/external project coordinator for electronic system design, implementation and maintenance.*  
Oct 2003 – Sep 2011: Principal Technical Officer.  
*Forerunner for CERT electronics team training courses in modern design, implementation, troubleshooting, maintenance and optimization methods and processes. Main developer of temperature monitoring, lighting energy monitoring, access control, and other embedded systems projects.*  
Mar 2000 – Sep 2003: Senior Technical Officer.  
*Initiator of SoC/programmable logic system design and implementation process at CERT. Main developer of sensor and actuator communication and control algorithms using MPLAB Microchip™ assembler and PICBasic.*

## PROFESSIONAL DEVELOPMENT

- May 2014: Research Commercialization Workshop, Kiwi Innovation Network (KiwiNet).
- Jul 2014: Workshop for Teaching Assistants, Auckland University of Technology.
- Nov 2008: Programmable Logic Controller Training Workshop, Ethiopian Scientific Equipment Centre.
- Jan – Mar 2007: Equipment Installation and Utilization Training Course, GSF Institute for Groundwater Ecology.
- Sep 2001: International Technical Workshop, Energy-Efficient Motor Systems, United Nations Industrial Development Organization.

## PROFESSIONAL AFFILIATION

- Member, Engineering New Zealand (ENZ) – # 1,025,887.
- Member, Institute of Electrical and Electronics Engineers (IEEE) – # 90,469,480.

## **ACHIEVEMENTS AND AWARDS**

- Aug 2020 – Date: Initiator, Content Creator and Facilitator of Data Science Discourse (DSD) Web Log: <http://yuccantech.com/category/dsd/>
- Dec 2017: Completion of a PhD with two original and significant contributions to knowledge.
- Mar 2014 – Date: Member, IEEE smart grid research and development committee.
- Dec 2005: Certificate of excellence for the design and implementation of a microcontroller-based access control system.

## **COMMUNITY SERVICE**

- Apr 2019 – Date: Participation in Engineering New Zealand’s wonder project rocket challenge for primary school students in Auckland and environs.
- May 2013 – Apr 2014: Participation in Conservation Volunteers New Zealand park biodiversity preservation drive in Auckland and environs.

## **FORMAL QUALIFICATIONS**

- PhD Electrical and Electronic Engineering, Auckland University of Technology.
- M. Eng Electrical, Bayero University.
- Postgraduate Diploma in Electrical Engineering, Bayero University.
- Postgraduate Diploma in Management, Ahmadu Bello University.
- B. Eng Electrical, Ahmadu Bello University.

## **PERSONAL INTERESTS**

Equipment/Vehicle Restoration, Cycling/Motor biking, Hiking, Gardening and Landscaping, Coding and Programming, History and Genealogy.