europass **Curriculum Vitae** MSc Eng.

PERSONAL INFORMATION

NTAMBARA BONIFACE

Kigali, RWANDA

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Sex: **Male** | DOB: 01/01/1990 | Status: **Single** |Nationality: **Rwandan**

JOB APPLIED FOR
POSITION
PREFERRED JOB
STUDIES APPLIED FOR

Mentor, Scholar Colab

WORK EXPERIENCE

2024-June 2025
Employer

Expert-Lecturer in Manufacturing Process
Rwanda Polytechnic/Ngoma College

Duties/Responsibilities

Lecturing and teaching Manufacturing Process, Heat and Mass Transfer, Industrial Design for Manufacturing, Electrical and Electronis Concepts in Manufacturing Modules, and student research capstone projects supervision.

Mar-May 2024
Employer

Risk Management Specialist
Rwanda Energy Group(REG)/EUCL/EDCL

Duties/Responsibilities

Project risk finding, analyses, project monitoring and management from the projects entitled: Design, supply, and installation of low voltage and medium voltage lines and service connections in Gicumbi, Nyabihu, and Gakenke district (EPC) implemented through Rwanda-Energy Access and Quality Improvement Project under Rwanda Universal Energy Access Program (RUEP). The scope of work in the contract was covering in **Gicumbi District**: 156 km of Medium Voltage Lines, 246 km of Low Voltage Lines, 80 transformers and 15,125 customers. For **Gakenke district:** The project scope of work includes the survey and design of MV and LV lines, the procurement of electrical MV and LV materials, the construction of MV and LV lines, transformers, and connections. The scope of works also foresees trainings on design software and supply of spare parts to EDCL. The contract scope of installation works includes 81.8 km of MV lines, 218 km of LV lines, 107 distribution transformers and 12841 connections. In **Nyabihu district**, EPC project was for Design, Supply, And Installation of Low Voltage and Medium Voltage Lines and Service Connections in 12 sectors. The project has the initial scope of 185 km of MV line, 622.9km of LV, Installation of 297 transformers and 34,471 Service Connections.

2020-Apr 2023

IEEE Power System Consultant

Employer **IEEE Tanzania Section/ IEEE Region 8, Europe, Middle East, and Africa/Arusha-Tanzania**

Duties/Responsibilities

Develop and Build electrical power distribution systems in overhead and underground facilities, Determine electrical equipment needs and quantities for development of new power systems, Manage voltage drop, short circuit, power factor, and sag and stress in a timely manner, Provide engineering support to operations and maintenance of power distribution systems, Monitor performances of electrical systems and recommend improvements, Analyze system failures and suggest appropriate resolutions, Work in compliance with company policies and procedures, Propose cost reduction initiatives while maintaining high efficiency of electrical transmission and distribution systems, Assist in constriction specifications, material selection, and foundation design activities, Maintain documentation of all engineering tasks performed for future reference purposes, Control, monitor, or operate equipment that regulates or distributes electricity or steam, using data obtained from instruments or computers, Monitor and record switchboard or control board readings to ensure that electrical or steam distribution equipment is operating properly, Prepare switching orders that will isolate work areas without causing power outages, referring to drawings of power systems.

Jan 2022-Jun 2023 **Power System Engineer**

Employer Springer Nature, JIRA-International Intelligent Power Company.

Duties/Responsibilities

Advanced Hydropower control for actuating and sensing systems; Computing, communication and control, Design, modeling, and prototyping of power generation, transmission, and distribution lines, AI power system distribution, transmission lines operations and maintenance, and intelligent autonomous systems, Multi-sensor fusion and perception, Planning, navigation and localization, intelligence charging infrastructure management, learning and linguistics, Robotic vision, recognition and reconstruction, Cloud and Swarm IoT based power distribution machines, Cognitive and neuro robotics for turbine manufacturing and process systems, Novel and emerging applications in cyber-physical power system threats.

Business or sector **Energy and Automation**

2018-2021 **Electrical Power System Specialist/Reviewer**

Employer **IEEE Southern Power Electronics Company (IEEE SPEC)**

Duties/Responsibilities **Devices & Components (** Device packaging and characterization, New developments (WBG and other), Modelling, Passive components, Reliability, Device protection), **Power Converters(**Converter design, Modular multilevel converters, Resonant and HF converters, WBG power electronics, EMI / EMC and HF phenomena), **Energy Storage: (** Batteries, super-capacitors, flywheel, Energy management systems, Second-life battery systems and applications, Energy storage for standalone and grid connected renewable energy systems, EMI / EMC and HF phenomena, **E-mobility(** Power converters for electric vehicles, E-tractors, Power electronics and control for drones, Electric motorcycles, Control and energy management, All electric aircraft and ship, Pilot studies, EV Charging Technologies), **Power supplies(** Wireless transfer of power, Low and high voltage DC power supplies, Uninterrupted power supplies, Distributed power supplies), **Motor Drives and Actuators(** Modelling, control and design of drives, Robotic applications, Industrial applications, Servo drives), **Other Related Topics(** Power electronics education, Hybrid teaching of power electronics, Protection and data analytics, Power electronics for medical applications, Cyber physical aspects for power electronics).

2021-2022 **Employer**	**Energy Project Engineer** **International Transportation and Electrification Institute and Electric Power Distribution and Transmission Technologies. (ITEI+EPDTT). Arusha-Tanzania**
Duties/Responsibilities	Collaborate with project managers, engineers, designers, and drafters to deliver the most cost effective and highest quality infrastructure solutions; Coordinate design/review of distribution projects for a utility, including preparation and review of bill of materials, clearance requests, permit applications, and equipment and labor units; Perform field inspections and evaluations of electrical systems for outside plant design; Produce detailed design documentation including utility design system, line layout/routing, overhead and underground distribution, and identification of conflicting utilities; Contributes to and implements design modifications to improve quality of projects and process improvements; Apply design standards to underground and aerial pole line, including: Pole Replacement, Primary Service, and Reliability/Maintenance Design.
Business or sector	**Electrical Engineering**

2020-2022 **Energy Planner and Policy Analyst**

Employer **General Civil and Electrical Engineering Contractors (GCEEC)/ Rwamagana-Rwanda**

Duties/responsibilities Supervising small engineering teams to perform transmission planning technical studies required to develop baseline transmission expansion plans; Performing systems modelling, analysis and simulation using industrial standard software; Developing, preparing and maintaining all necessary transmission system software models of client networks; Carrying out preliminary design, site selection and supervision of technical investigations required for feasibility studies; and Preparing thorough and precise technical reports, documentation, and any other assigned reports for projects; Maintain and development of supply forecasting including data bases of new entrant technologies o Economic assessment of new network augmentation and option analysis, Technical reporting to underpin the outcomes of network analysis o National Electricity Market modelling and market benefit analysis o Development and maintenance data and models necessary to carry out transmission network analysis, Supporting the preparation of public consultation reports; Supporting the preparation of the Transmission Annual Planning Report and Network Development Plans; Apply guidelines, processes and systems to lead the way of best practice Contribute to handling of external enquiries that lead to profitable non-regulated investment. In particular, the application of specialist transmission dynamics skills is central to the handling of generator connection enquires, especially wind generation; Analyze energy systems, energy loss reduction, energy low emission development, country energy security strategies, streamlining energy project development and investment processes, improvement of climate mitigation and resilience by providing technical assistance, diversification of energy resources, Minimize unnecessary energy consumption, development of renewable energy technologies, analyzing of the trends and major factors in the energy trading market, energy trades methodologies and practices, and identification of quality major stakeholders in the energy sectors, development of energy policies and standards, advise on heating systems energy efficiency, energy planning, energy audits, budget management, strategic energy planning, etc,...

Business or sector **Energy and Power Automation**

2014 - 2017	**Project engineer**
Employer	**GENERAL ELECTRIC**
Duties/responsibilities	**Construction of 110/30KV 50km Kabarondo-Nasho rural electrification distribution line**

Analyzing technical drawings, interpreting specifications, and determining the electrical requirements, Analyzing and approving various construction and engineering plans, Perform work for projects that may include master planning, existing facility evaluations, feasibility studies, design, cost estimating, and similar technical functions; Develop design concepts, and provide technical direction for design of electrical systems with a focus on energy efficiency and sustainability; Prepare reports, plans, and specifications for assigned projects in compliance with applicable codes, accepted engineering practices, and owner's project requirements; Plan, schedule, conduct and coordinate the technical and management aspects of projects within assigned engineering scope; Responsible for both the quality of deliverable and effective execution of project assignment; Responsible for technical accuracy of work performed in assigned engineering scope; Coordinate with clients, facility owners, and sub-consultants; Maintain a positive work environment; Read and interpret customer specifications and drawing packages; Properly size conductors and equipment overcurrent protection devices in accordance with the NEC; Size and route conduit and raceways in accordance with the NEC; Determine energy efficiency compliance based on IECC or IEEE codes; Compile building submittal packages for review by customers; Understand and design control panels in accordance with IEC standards; Utilize AUTOCAD drafting software to build schematics; Selection of electrical materials and equipment to meet job requirements; Provide additional verbal and written instructions to support manufacturing and test processes; Development of renewable energy technologies, analysis of the trends and major factors in the electricity trading markets, electrical trades methodologies and practices, and identification of quality major stakeholders in the electrical sectors.

Business or sector **Energy and electrical engineering**

June 2014 - Dec 2015	**Power Transmission Engineer**
Employer	**BOUYGUES ENERGIES & SERVICES/ NYAGATARE DISTRICT**
Duties/responsibilities	**Project:** Construction of 220KV High Voltage Electrical Transmission line from MIRAMA(UGANDA) to SHANGO (RWANDA)
	Role: Design and plan transmission systems using appropriate technologies; install communication equipment and transmission lines, including fiber optics, microwave, and coaxial cables; Collaborate with other engineers and technicians to ensure transmission system meets design specifications; Perform regular maintenance and repairs to ensure optimal performance and prevent downtime; Diagnose and troubleshoot transmission issues and implement necessary corrective actions; Maintain accurate documentation of equipment and transmission systems, including maintenance logs and system schematics; Stay up-to-date with advancements in transmission technologies and recommend improvements to existing systems; Power system studies (load flow, short circuit, protective coordination, arc flash analysis), MATLAB/Simulink, PSCAD model development and analysis; Preparation of one line and three-line diagrams, AC/DC schematics, wire schedule, interconnection diagrams; Field experience including witnessing testing of HVDC equipment and systems; Developing construction and equipment specifications; Supporting projects during construction, start-up, and commissioning as needed; Grounding Analysis and Design
Business or sector	**Electrical Engineering & Services**
Nov 2014 - Aug 2015	**Senior Maintenance Supervisor, Electrical and Plumbing**
Employer	**KIGALI BUILDING COMPANY, KIGALI/RWANDA**
Duties/responsibilities	Maintenance, generator operations & repair, electrical installation, and electrical protection, electrical automation and electrical rehabilitation and construction technology, electronics tools maintenance and repair, analysing and wiring electronics and electrical diagrams, network administrator installation, internet connection cables and IT technician, mechanical installation; preventive and routine maintenance; civil works control & management and routine and urgent repairs on all office and residential property emergency generators and transfer switches, troubleshooting, basic repairs and installation of generators and transfer switches in a building maintenance environment and electrical management technologies.
Business or sector	**Engineering Services & Construction Technology**
Jun-Oct 2014	**Electrical Distribution & Automation Engineer**
Employer	**RWANDA ENERGY GROUP LTD** (REG/EUCL LTD) KABARONDO HIGH VOLTAGE SUBSTATION AND NGOMA DISTRIBUTION SUBSTATION.
Duties/responsibilities	Electrical automation control and system, construction of 110/70/30/15/1KV electrical transmission and distribution lines, electrical maintenance, electrical faults detection and location & their recovery, installation of cash powers, public lights automation, and their control, electrical installation, winding and grounding of three, one phase(s) transformers, protection of electrical power tools.
Business or sector	**Energy**

Dec 2012- Dec 2013	**Project Engineer**
Employer	**SCHNEIDER ELECTRIC CORPORATION**, Rueil-Malmaison, France/Virtual and online support.
Duties/responsibilities	Industrial Control wiring Guide, SCADA system & PLC Controllers, Fundamentals of Automation Management Technology, Aircraft maintenance technology, flight operation management& Maintenance Management, Electric Distribution & Transmission Power System and Installation Components for Energy Management, Construction of Hydroelectric power and its transmission, Conducting Hydro-power project in Construction, Design Hydro-power plant, Design of 132KV/33KV substation, Conducting High Voltage substation in Construction, Electric Power System Applications of Optimization ,Electrical Power Equipment Maintenance and Testing, Electric Systems, Dynamics, and Stability with Artificial Intelligence Applications, Transformer Engineering: Design and Practice, Vehicular Electric Power Systems: Land, Sea, Air, and Space Vehicles, Power System State Estimation: Theory and Implementation, Protection Devices and Systems for High Voltage Applications, Power System Analysis: Short Circuit Load Flow and Harmonics, Control and Automation of Electric Power Distribution Systems, Protective Relaying for Power Generation Systems, Understanding Electric Utilities and De-regulation, Renewable Energy Utilities and its uses, PV solar System installation.
Business or sector	**Electrical and automation Engineering services.**
Nov 2011- Dec 2012	**Electrical senior engineer**
Employer	**CHINA EXERT ENGINEERING GROUP LTD, GISAGARA-Rwanda**
Duties/responsibilities	Electrical maintenance, electrical installation, rehabilitation, assistant plumbing technician, network administrator installation and internet installation cables, troubleshooting, basic repairs and installation of generators and transfer switches in a building maintenance environment, mechanical installation; preventive and routine maintenance; and routine and urgent repairs on all office and residential property emergency generators and transfer switches, predictive maintenance and Civil engineering works and construction technology.
Business or sector	**ELECTRICAL ENGINEERING & CONSTRUCTION TECHNOLOGY**
Jan 2011- Aug 2011	**Physics and Mathematics Teacher**
Employer	**NYARUBUYE SECONDARY SCHOOL**
Duties/responsibilities	Mentoring of Generator mechanics, electrical and plumbing system maintenance, troubleshooting, preventive, corrective, breakdown maintenance, maintenance prevention, electronics maintenance, industrial wiring guide and electrical installation, mechanical and civil works supervision, teaching physics and mathematics
Business or sector	**Education**

EDUCATION AND TRAINING

2025-Now

Instirution

PhD in Mechatronic Engineering
Jomo Kenyatta University of Agriculture and Technology, Kenya

Research Area

Development of PCM based EV Battery Thermal Management Scheme with Real-Time Monitoring for SoH Prediction System

2018-2020

Institution

Technical skills

MASTER OF SCIENCE IN INDUSTRIAL ENGINEERING

Moi University, P.O. BOX 30900-3100 Eldoret, Kenya

Industrial robotics, mining engineering, Material Science, industrial power and energy systems, industrial internet of things, industrial instrumentation and control, industrial cyber-physical systems, HMI and SCADA monitoring, Industrial Automation, PLC and SCADA Systems, Intelligent Energy Systems, Aerial Robotics, Drone Technology, Energy and power Technology, Aeronautical and Aerospace Engineering, Sensor Systems and Embedded Computing, Power and Energy Automation, Industrial Power Systems, Internet of Things (IoT) and Embedded Systems, Sensors and Actuators, Advanced Applied Electronics, IT Project Management, Soft Skills, Foundation of Law Philosophy and Ethics, Electronic Business, Technological Innovation and Entrepreneurship Management, Embedded Networking, Embedded Systems Engineering, Embedded Systems in Traffic Applications, Stability of power electronic converter, Industrial Internet of Things(IIoT), Artificial Intelligence, Machine Learning, Deep Learning, Responsible AI, and Cybersecurity.

2021-2023

Institution

Technical Skills

MASTER OF SCIENCE IN EMBEDDED AND MOBILE SYSTEMS (EMBEDDED SYSTEMS OPTION)

NELSON MANDELA AFRICAN INSTITUTION OF SCIENCE AND TECHNOLOGY, P.O. BOX 447 Arusha, Tanzania.

Internet of Things (IoT) and Embedded Systems, Sensors and Actuators, Advanced Applied Electronics, IT Project Management, Soft Skills, Foundation of Law Philosophy and Ethics, Electronic Business, Technological Innovation and Entrepreneurship Management, Embedded Networking, Embedded Systems Engineering, Embedded Systems in Traffic Applications, Stability of power electronic converter, Industrial Internet of Things(IIoT), Aeronautical and Aerospace Engineering and HMI and Cyber-Physical Systems, Artificial Intelligence, Machine Learning, Deep Learning, Responsible AI, and Cybersecurity.

2011-2015	**Bachelor of Science (Hon.), Engineering in ELECTRICAL POWER ENGINEERING**
Institution	**UNIVERSITY OF RWANDA/ COLLEGE OF SCIENCE AND TECHNOLOGY**
Technical skills	Electrical power systems, electrical dynamics and control, advanced electrical machines, energy production, energy utilization and instrumentation control, engineering mechanics, microprocessor and micro-controller systems, high voltage technology, electrical circuit analysis, electrical automation, control systems, signal theory, and digital circuits, material physics.
2005-2010	**Advanced General Certificate of Secondary Education in MATHEMATICS-PHYSICS-GEOGRAPHY**
Institution	**NYARUBUYE SECONDARY SCHOOL-KIREHE DISTRICT**
03 Dec 2016	Certified in Africa green ICT engineering, High Performance, High Availability Green Networks, Green Optical Transport Network Design for 5G Mobile Networks, Sustainable Growth of Network Services, The 5G Main Building Blocks, and 5G Energy Performance Challenges and Solutions.
Certification Body	**IEEE** (**I**nstitute of **E**lectrical and **E**lectronics **E**ngineering)/the University of British Columbia Vancouver V6T1Z4 under the University of Rwanda.
24-25 Nov 2016	Certified in SOLAR CELLS and LEDs: Theory, Design and Implementation for Sustainable Electricity Power Generation
Certification Body	**IEEE (Institute of Electrical and Electronics Engineering) and University of Rwanda**
Dec 2016-Oct 2017	**VERIFIED CERTIFICATE OF ACHIEVEMENT IN AERONAUTICAL ENGINEERING in** Engineering-Technical Publications, Aircraft Engineering Design, Mechanical & Aeronautical Engineering, Electrical Flight Systems design Engineering, Industrial Engineering for Aeronautical & Mechanical design, Aviation PDE Design and Manufacturing, Technical Officer Piloting, Project Assistantship (PA) for aerospace engineering, Aviation Piloting, Space Vehicles Design, size and Implementation, ND, PFD, and CDU systems captain & Co-Pilot Design
Certification Body	**DELFT UNIVERSITY OF TECHNOLOGY/ Delft, EdX Cooperation, THE NETHERLANDS**
23-27April 2018	Certified in Organic Semiconducting Materials for Photovoltaic and Other Optoelectronic Applications: Synthesis and Structure-Property Relationships.
Certification Body	**(ANSOLE) Africa Network for Solar Energy & IEEE (Institute of Electrical and Electronics Engineers).**
Jul 2017- Jan 2018	Training in Engineering Management, Project Engineering Coordination, Project Management Associate, Project Management for Engineering Projects, Culture, and Project Management, The Politics of Projects, Project Management Certifications, Project Stakeholders, The Project Life Cycle, Project Schedule, Budgeting, and its Reports
Training Body	**DELFT UNIVERSITY OF TECHNOLOGY/Delft, The Netherlands, and Rwanda Cooperation**

Nov 01 – Dec 11, 2018	**Certified in** Designing and Building Telecom Networks: A Case Study, Industrial Insulation III: Inspection and Maintenance, Strategic Energy Planning and Analyzing Reliability in the Data Centre.
Certification Body	**Energy University by SCHNEIDER ELECTRIC, Kenya**
Aug 11 – Sept 18, 2018	**Certified in** Construction Project Management
Certification Body	**Columbia University, New York City/USA_Coursera**
Sept 10 – Oct 12, 2018	**Certified in** Major Engineering Project Performance
Certification Body	**University of Leeds, Yorkshire/UK_Coursera**
Sept 1– Oct 31, 2018	**Certified in** Electric Power Systems
Certification Body	**The State University of New York/USA_Coursera**
Dec 2018-Mar 22, 2019	**Certified in** Technical Maintenance of Aircraft and Aircraft Engines
Certification Body	**SAMARA UNIVERSITY/RUSSIA Virtual**
03 Mar-04 Oct 2018	**Certified in** Energy Data analytics, statistical research data management, data repositories, research data planning, substation operation and maintenance.
Certification Body	**Rwanda Development Board (RDB) and Rwanda Energy Group (REG)**
6-10 May 2019	**Certified in** Power Engineering, Energy Engineering, Micro Grid, Smart Grid, Small wind turbines(Off Grid systems), High Voltage Direct Current Technology(HVDC), Wind Power Plant with Double Feed Induction Generator(GFIG), Hydro-power with pumping and classical power generation, Power Transmission and Protection Technology, Industrial Photovoltaic systems, Micro-grid Power system with synchronization, Smart Grid SCADA Monitoring and Remote control, Smart Grid distribution and double Bus Bars FRT(Fault ride through, dynamic grid fault simulation).
Certification Body	**ACEESD (Africa Centre of Excellence in Energy for Sustainable Development) and University of Rwanda, Rwanda**
Jul 2019-Jun 2020	**Certified in** Total Productive Maintenance for Production and Quality Systems
Certification Body	**Alison International Institute/Ireland**
25-29 Jan 2021	**Certified in** Entrepreneurship Training Course
Certification Body	**Centre of Excellence for ICT in East Africa (CENIT@EA)**
April-June, 2022	**Certified in** Operator Training Simulator-eOTS, Transmission & Distribution Network Analysis, Advanced Distribution Management System-ADMS, ETAP Grid Code Solutions, Cable EMF-Cable Magnetic Field Exposure Analysis, Short Circuit & Ground Grid Analysis, Outage Management System-OMS, DC Arc Flash Analysis for PV Systems, International Standards for Arc Flash and Shock Risk Assessment, Lightning Risk Assessment, Current Transformer (CT) Saturation, and eLabel™ Maker, Intelligent Distribution Load Shedding - iDLS, Power Plant Controller-ePPC, Microgrid Solution-ETAP µGrid™, Digital Twin with Generation, Transmission, Distribution & Microgrid Applications, AC & DC, from LV to HV Arc Flash-ArcSafety, Centralized Enterprise Protection Asset Management-project, ETAP Power System Monitoring & Simulation (PSMS™), Protection & Coordination for Traction Systems, and Analysis & Operation of Rail Traction Systems - eTraX, industrial power systems
Certification Body	**Electrical Transient and Analysis Program (ETAP)**

Feb 16, 2022	**Certified in** impedance modeling and stability analysis of grid-interactive converters, Development of Electric Motor Systems and Electric Drives for Vehicle Electrification
Certification Body	**IEEE Power Electronics Society-Transportation Electrification Society**
Jan 2022	**Certified in** Advanced Machine Learning Aided Power Systems State Estimation
Certification Body	**IEEE** Power and Energy Society University
22 April 2022	**Certified in** Self Supervised Domain Adaptation Framework for 3D Human Pose Estimation
Certification Body	**IEEE IISc Computational Intelligence Society and Indian Institute of Science**
26 April 2022	Certified in Model-Based Engineering (MBE): A Design and Test Perspective
Certification Body	**KEYSIGHT TECHNOLOGIES**
May-June 2022	**Certified in** Big-Data Analysis for Manufacturing Test , Best Practices in Sensor Characterization and Control, Active Multi-Beam Antennas - Testing The Drivers For Advanced Satellite Concepts ,Automated Design Testing Procedures Using Software Simulation Tools, Automotive Radar Simulation, Applying Test Driven Development for embedded and real-time development using Model Based Testing, Ansys AI Filter Optimization, Multi-physics and Automation, An Intelligent Approach to Machine Design , Wireless Interoperability in IoT, Satellite Mission Planning–the R&S®SLP Satellite Link Planner and the R&S®CSM Communication System Monitoring, Inductive Power Transfer – Impact on E-Mobility and Industrial Production, Multi-physics Modelling of Piezoelectric Sensors and Actuators , Hybrid-Electric Air-Vehicle Propulsion: Challenges, Opportunities, and Impact, Powering Critical Loads, Technology Development from the More Electric Aircraft to All Electric Flight, Test and Measurement Virtualization and Blockchain: Enablers for 5G Networks, LiDAR: An Enabler for High-safety, Sensor Fusion Perception Platforms in ADAS and AD Applications, Real-Time Matters! Timing and Performance Analysis for Embedded System, Realizing New Potentials in Miniature Subsea Robotics, Performance Measurements–Enabling the Smarts in smart Machine Control (sMC), Industrializing Additive Manufacturing for Electronics through an Integrated, End-to-End Process, Active Multi-Beam Antennas - Testing The Drivers For Advanced Satellite Concepts, Machine Learning Enabled Design Automation and Optimization for Electric Transportation Power Systems, Design Automation for Power Electronics, Probabilistic Design for Reliability (PDfR) in Electronics and Photonics, Nanomaterials for Printed Electronics, Thermo-Mechanical and Mechanical Reliability of Electronics, Optimizing Data Analytics for the Smart Grid, Framework for Evaluating Cyberthreats Targeted at Cyber-Physical Energy Systems (CPES): From Threat Modelling to Co-simulation Case Studies.
Certification Body	**IEEE Communication Society, Industrial Applications Society, and IEEE Innovation Spectrum.**

Dec 2021-March 2022 **Certified in** Unlimited Range Electrified Drones for Emergency Medical Response Activities, itz Wire and Magnetic Loss Calculation in Power Electronic Design Process, Miniaturizing Energy Interfaces by Intelligent Control, Advanced Linear Induction Machines and Drive Systems for Transportation, Artificial Intelligence, Control and Estimation Techniques for the Safe Operation of Critical DC Microgrids , Energy Storage and Electric Vehicle Technology, Applying Test Driven Development for embedded and real-time development using Model Based Testing, Power Electronics-Based Energy Management Systems in Remote Microgrids, Power Quality Considerations for Industrial and Commercial Power Systems, Cybersecurity and Industrial Control Systems , Power Electronics-Enabled Autonomous Power Systems - Synchronized and Democratized (SYNDEM) Smart Grids, Ultrafast Time Domain Cryogenic CMOS Device Characterization Platform for Quantum Computing Applications, Real-time Prototyping of 5G Software Defined Networks, Electrical Testing and Diagnostics of Medium-High Voltage Induction Machines in an Industrial Environment, Modern Selectivity Techniques for LV & MV Systems, Advancements in Power Flow Control: Modular SSSC Technology, Understanding Voids in Flip Chip Interconnects , Adaptive EMC Design for Wide Bandgap Power Converters in Aviation Applications, Electrically-Large Aerospace Platforms, Heterogeneous Integration Roadmap (HIR) Chapter 6 Aerospace & Defense.

Certification Body **IEEE Aerospace and Electronics Society, Robotics and Automation Society, Industrial Electronics Society, IEEE Electronics Packaging Society**

18-29 July 2022 **Shortcourse in Machine Learning, Deep Learning, and Responsible Artificial Intelligence or Responsible AI**

Certification Body **AI4D LAB ANGLOPHONE AFRICA**

24 Oct-04 Nov 2022 **Certified in Industrial Innovation: Trends and Advancement in ICT**

Certification Body **Centre of Excellence for ICT in East Africa** (CENIT@EA)

PERSONAL SKILLS

Mother tongue(s) **KINYARWANDA**

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
ENGLISH	**C2**	**C2**	**C2**	**C2**	**C2**
	Test of English Language by Rwanda Linguistic Enhancement				
FRENCH	**C1**	**C2**	**C1**	**C2**	**C2**
SWAHILI	**B2**	**C1**	**B2**	**B2**	**C2**

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills Good communication skills gained through my experience as an electrical engineer, project engineer, energy analyst, and studentship abroad for master's degrees from East African Community members.

Organizational / managerial skills

Leadership (currently responsible for a team of 25 people), Interpersonal skills, business planning, public-private partnership, Communication and motivation, Organization and delegation, Forward planning and strategic thinking, Problem-solving and decision-making, Commercial awareness, Mentoring, strategic planning, attention to detail, self-motivation, setting goals, communication, and time management.

Job-related skills

- Industrial total quality management, Industrial process design, advanced manufacturing techniques.
- Good command of quality control processes (currently responsible for quality energy audit)
- Analyzing the performance of embedded software(profiling) Ensuring the quality of the applications and systems developed.
- Artificial intelligence, robotic design, Modeling and developing embedded applications, Mastering development methods for embedded and mobile systems

Computer skills

Competent with most Microsoft office programs, ArchiCAD, SolidWorks, MATLAB/Simulink, power world, AutoCAD, MathCAD, and Photoshop software, ETAP, Dig Link, DAPPER, Kalkitech PowerApps, NEPLAN, ERACS Software and PCSCHEMATIC Automation, Grid LAB-D software, PSS@E Software, Proteus, Arduino IDE

Other skills

Plumbing, Generator servicing and inspection, Battery powered electric vehicles servicing, maintenance and servicing.

Projects

A Low Cost and Energy Efficient Automated Health Recognition and Monitoring Systems of Patient's Prominence Based on IoT, IoT-Based Intelligent Charging System for Kayoola EVs Buses: A Case of Kiira Motors Corporation

Conferences

1. IEEE 6th Southern Power Electronics Conference on Dec 7-9, 2021, Kigali-Rwanda
2. 2nd East African Community Regional Science, Technology and Innovation (STI) Conference on 27-29 Oct, 2021, Bujumbura-Burundi
3. 2022 IEEE Transportation Electrification Conference & Expo
4. 2022 IEEE International Conference on Robotics and Automation (ICRA) on 23-27 May, 2022, Washington DC, USA
5. 1st International Conference on Technological Advancement in Embedded and Mobile Systems (ICTA-EMoS) on 24-25 November, 2022 Arusha-Tanzania

Professional Memberships

IEEE (Institute of Electronics and Electrical Engineers/Member
IEEE Aerospace & Electronics Systems Society (AESS)
IEEE Industry Applications Society (IAS)
IEEE Women in Engineering (WIE)
IEEE Council on Electronic Design Automation
IEEE Vehicular Technology Society Technical Community on Connected vehicles Micro Electro Mechanical Systems Technical Community,
IEEE SIGHT
IEEE Internet of Things Community
IEEE Micro Electro Mechanical Systems Technical Community Neuro-engineering,
IEEE Engineering in Medicine and Biology Society Technical Committee, Ocean Observation Systems, and Environmental Sustainability,
IEEE Oceanic Engineering Society Technology Committee Ocean Remote Sensing,
IEEE Oceanic Engineering Society Technology Committee Ocean Sustainable Energy Systems,
IEEE Oceanic Engineering Society Technology Committee Polar Oceans,
IEEE Oceanic Engineering Society Technology Committee, Power Components, Integration, and Power ICs,
IEEE Power Electronics Society Technical Committee
IEEE Software Defined Networks Community Subsea Optics and Vision,
IEEE Oceanic Engineering Society Technology Committee Sustainable Energy Systems,
IEEE Power Electronics Society Technical Committee Underwater Acoustics,
IEEE Oceanic Engineering Society Technology Committee Underwater Cables and Connectors,
IEEE Oceanic Engineering Society Technology Committee Underwater Communication, Navigation, and Positioning,
IEEE Oceanic Engineering Society Technology Committee Wearable

Publications

1. Research article: **Design of Low Cost and Energy Efficient Smart Energy Meter of Overload Tripping with Recognition and Notification Systems based on Internet of Things**
Publisher: IEEE (Institute of Electrical and Electronics Engineers)
Link: https://ieeexplore.ieee.org/document/9709465
DOI: 10.1109/SPEC52827.2021.9709465

2. Research article: **Mitigation of power outages in Rwanda**
Publisher: Taylor and Francis Group
Link:https://www.taylorfrancis.com/chapters/oaedit/10.1201/9781003221968-7/
DOI: http://doi.org/10.1201/9781003221968-7

3. Research Article: **Design and Simulation of An Efficient and Controlled Solar Power Electronics Converter in Microgrid and Smart Grid Applications.**
Publisher: Hill Publishing/Journal of Electrical Power and Energy Systems (JEPES)
Link: https://www.hillpublisher.com/Journals/JEPES/
DOI:10.26855/jepes.2022.06.001

4. Research Article: **Optimization of Rwanda power system protection in power blackouts and cascaded events.**
Publisher: Springer Nature: Applied Sciences
Link: https://link.springer.com/article/10.1007/s42452-022-05188-5
DOI: 10.1007/s42452-022-05188-5

5. Research Article: **Characterization and Analysis of Fish Waste as Feed-stock for Biogas Production**
Publisher: International Journal of Low-Carbon Technologies/University of Oxford Press
Link:https://academic.oup.com/ijlct/article/doi/10.1093/ijlct/ctac135/7005680
DOI: https://doi.org/10.1093/ijlct/ctac135

6. Research Article: **A Novel and Intelligent GSM-based Smart Prepaid Water Meter: Design and Implementation, A Case of Rural-Urban Areas in Arusha-Tanzania**
Publisher: IEEE Potentials
DOI: https://doi.org/10.1109/MPOT.2023.3262908
Link: https://ieeexplore.ieee.org/document/10190252

7. Research Article: **Optimization of Biogas Production from Anaerobic Co-Digestion of Fish Waste and Water Hyacinth**
Publisher: Springer Nature: Biotechnology for Biofuels and Bioproducts
DOI: https://doi.org/10.1186/s13068-023-02360-w
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