

# Nahshon Moku Obiri

**Nationality:** German, Kenyan **Date of birth:** 06/03/1993 **Phone number:** (+49) 1777368929

**Email address:** [nahshon.obiri@student.uni-siegen.de](mailto:nahshon.obiri@student.uni-siegen.de)

**Home:** Wenschstr. 63, 57078 Siegen (Germany)

## ABOUT ME

I am a dynamic, team-spirited, and performance-driven graduate engineer with an excellent learning attitude; trainable and ready to embrace positive change with a positive mindset. I am active in outdoor leadership and mentorship programs and am ready to motivate others to achieve their dreams. Pursuing a Ph.D. to attain scholarly excellence in teaching and research toward attaining Sustainable Development Goals.

## EDUCATION AND TRAINING

### Doctor of Engineering

**Universitaet Siegen** [ 01/10/2023 – Current ]

**City:** Siegen | **Country:** Germany | **Website:** <https://www.uni-siegen.de/> | **Field(s) of study:** Electrical Engineering and Computer Science

### Deutsch Intensiv für Studium & Beruf

**Institut für Internationale Kommunikation e.V. (IHK Düsseldorf)** [ 30/05/2023 – 29/09/2023 ]

**City:** Düsseldorf | **Country:** Germany | **Website:** <https://www.iik-duesseldorf.de/en/german/> | **Field(s) of study:** Arts and humanities | **Final grade:** B1.1

### Master of Science in Telecommunication Engineering

**Dedan Kimathi University of Technology** [ 26/09/2018 – 15/12/2021 ]

**Address:** Private Bag – 10143, Dedan Kimathi,, Nyeri (Kenya) | **Website:** <https://www.dkut.ac.ke/> | **Field(s) of study:** Engineering, manufacturing and construction | **Final grade:** A | **Thesis:** A Water Quality Monitoring System using Wireless Sensor Networks

- Wireless Communication
- Advanced Electromagnetics, Antennas and Radio-frequency Propagation
- Telecommunication Network Design and Planning
- Digital Signal Processing

### Bachelor of Science in Electrical and Electronic Engineering

**Dedan Kimathi University of Technology** [ 12/09/2012 – 28/04/2017 ]

**Address:** Private Bag – 10143, Dedan Kimathi,, Nyeri (Kenya) | **Website:** <https://www.dkut.ac.ke/> | **Field(s) of study:** Engineering, manufacturing and construction | **Final grade:** First Class Honors

A Degree in Electrical and Electrical Engineering  
A total of 84 courses completed successfully.

### Kenya Certificate of Secondary Education (KCSE)

**St. John's Nyamagwa Boys High School** [ 02/02/2008 – 15/11/2011 ]

**Address:** P.O Box 505, 40200 Kisii (Kenya) | **Final grade:** A -

General High School Education

## Kenya Certificate of Primary Education (KCPE)

**Mavuno Complex Academy Primary School** [ 01/01/1999 – 20/11/2007 ]

City: Kisii | Country: Kenya | Final grade: 377/500

General Primary School Studies

## WORK EXPERIENCE

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### PhD Researcher

**University of Siegen** [ 01/10/2023 – Current ]

City: Siegen | Country: Germany | Website: <https://ubicomp.eti.uni-siegen.de/home/index.html.en?lang=en> | Name of unit or department: Electrical Engineering and Computer Science

#### A. Research and Development:

- Conduct advanced research in Artificial Intelligence (AI) and Data Science, including machine learning, neural networks, and big data analysis.
- Develop and implement innovative algorithms and models to solve complex technical problems.

#### B. Data Analysis and Modeling:

- Collect, clean, and analyze large datasets to support research projects.
- Apply statistical methods and machine learning techniques for pattern recognition, predictive modeling, and data interpretation.

#### C. Publications and Presentations:

- Publish research findings in reputable journals and present at international conferences.
- Share research results at academic and industry events to promote scientific exchange and networking.

#### D. Project Management and Collaboration:

- Participate in interdisciplinary research projects and collaborations with other universities and industry partners.
- Manage project tasks, including planning, budgeting, and reporting for research projects.

#### E. Teaching and Mentoring:

- Assist in teaching courses in electrical engineering, computer science, and AI.
- Mentor and supervise Master's and Bachelor's students in their research projects and theses.

### Assistant Lecturer

**Dedan Kimathi University of Technology** [ 01/02/2022 – Current ]

Address: Private Bag – 10143, Dedan Kimathi, Nyeri (Kenya) | Website: <https://www.dkut.ac.ke/> | Name of unit or department: Electrical and Electronic Engineering. - Business or sector: Education

#### A. Teaching and Research

- Preparing teaching materials for the units allocated based on the recommended course books.
- Conducting lectures for the allocated units in strict compliance with the University semester schedules.
- Setting examinations for the units allocated.
- Mentoring and supervising graduate assistants assigned to me.
- Supervising students on external attachment.
- Organizing and supervising academic trips for students.
- Attending and participating in the School Board, Departmental Board, and class advisory meetings as scheduled.
- Conducting research and publishing papers in peer reviewed journals and author books in my thematic area.
- Developing grant proposals and source for grants to carry out research.
- Carrying out extension consultancy work on behalf of the University.
- Continuously engaging in self-development skills upgrading activities.

#### Units Assigned so Far:

1. Circuit and Theory of Networks II
2. Circuit and Theory of Networks III
3. Microprocessors
4. Introduction to Engineering and Computing.
5. Wireless Communication I.
6. Control Engineering I
7. Signals and Communication II

#### B. Departmental Exams Coordinator

- Scheduling and collecting draft examinations and for external moderation.
- Overseeing timetabling of departmental examinations.
- Collecting and processing marked scripts for moderation.
- Implementing of approved examination procedures.
- Advising the department on examination best practices.

#### Engineering Lecturer (Part-Time)

**Meru University of Science and Technology** [ 17/07/2022 – Current ]

**Address:** P.O BOX ,972, 60200 Meru (Kenya) | **Website:** <https://www.must.ac.ke/> | **Name of unit or department:** Electrical and Electronics - **Business or sector:** Education

- Preparing teaching materials for the units allocated based on the recommended course books.
- Conducting lectures for the allocated units in strict compliance with the University semester schedules.
- Setting examinations for the units allocated.

#### Units Assigned

- Electrical Measurements and Instrumentation

#### Engineering Lecturer (Part-time)

**Kirinyaga University** [ 01/03/2022 – 30/07/2022 ]

**Address:** P.O.Box 143, 10300 Kutus (Kenya) | **Website:** <https://www.kyu.ac.ke/> | **Name of unit or department:** Engineering and Technology - **Business or sector:** Education

- Preparing teaching materials for the units allocated based on the recommended course books.
- Conducting lectures for the allocated units in strict compliance with the University semester schedules.
- Setting examinations for the units allocated.

#### Units Assigned

- Electromagnetics
- Digital Electronics II

#### Graduate Assistant

**Dedan Kimathi University of Technology** [ 01/05/2021 – 01/02/2022 ]

**Address:** Private Bag – 10143, Dedan Kimathi, Nyeri (Kenya) | **Website:** <https://www.dkut.ac.ke/> | **Name of unit or department:** Electrical and Electronic Engineering - **Business or sector:** Education

- Preparing teaching materials for the units allocated based on the recommended course books.
- Conducting lectures for the allocated units in strict compliance with the University semester schedules.
- Setting examinations for the units allocated.

#### Units Assigned

1. Circuit and Theory of Networks II
2. Circuit and Theory of Networks III
3. Microprocessors
4. Introduction to Engineering and Computing.
5. Wireless Communication I.

#### Graduate Student and Assistant

**Dedan Kimathi University of Technology** [ 26/09/2018 – 02/02/2021 ]

**Address:** Private Bag – 10143, Dedan Kimathi, Nyeri (Kenya) | **Website:** <https://www.dkut.ac.ke/> | **Name of unit or department:** Electrical and Electronic Engineering - **Business or sector:** Education

#### A. Assigned Roles:

- Diploma tutor at the Institute of Technical and Professional Studies (ITPS).
- Assisted in project coordination for undergraduate student.
- Internal attachment software trainer for undergraduate students.
- Assisted in the Commission for University Education (CUE) documents review and editing

#### B. Extra Duties:

- Teaching courses and/or discussion sections at the undergraduate level.
- Instructing and supervising undergraduate level labs and projects.

- Grading and/or evaluating performance of undergraduate students.
- Collecting and processing research data for the department.
- Preparing materials for presentations.
- Assisting with the assessment of the programs and services.

### Electrical and Electronic Engineer (Intern)

**Communications Authority of Kenya** [ 01/06/2018 – 31/08/2018 ]

Address: P.o. Box 14448, 00800 Nairobi (Kenya) | Website: <https://www.ca.go.ke/> | Name of unit or department: Frequency Spectrum Management (FSM) - **Business or sector:** Information and communication

- Managing the country's frequency spectrum and numbering resources.
- Facilitating the development of e-commerce.
- Regulating retail and wholesale tariffs for communications services.
- Monitoring the activities of licensees to enforce compliance with the license terms and conditions as well as the law.

### Field Officer (Data Collection)

**The National Construction Authority (NCA)** [ 01/02/2018 – 31/05/2018 ]

Address: P.O.Box 21046, 00100 Nairobi (Kenya) | Website: <https://nca.go.ke/> | Name of unit or department: Rapid Result Initiative (RRI) - **Business or sector:** Construction

- Field data collection under the overall supervision of the head office, coordinated by the regional offices.
- Data entry with the aim of capturing the construction workers details.
- Data analysis and classification based on factors like age, gender, mode of qualification etc.

### Electrical and Electronic Engineer (Intern)

**Ministry Of Transport, Infrastructure, Housing And Urban Development** [ 01/01/2017 – 30/04/2017 ]

Address: P.o Box 52692, 00200 Nairobi (Kenya) | Website: <https://publicworkskenya.com/> | Name of unit or department: State Department for Public Works - **Business or sector:** Construction

- Electrical installations (lighting and power).
- Vertical transportation systems.
- Security surveillance systems (CCTVs).
- Standby power facilities (generators and solar).
- Structured cabling installation (Data communication systems).
- Design considerations and calculations for interior lighting and power.
- Preparation of electrical engineering drawings.
- Preparation of bills of quantities.

### Electrical and Electronic Engineer (Intern)

**Kenya Electricity Generating Company** [ 01/01/2016 – 30/04/2016 ]

Address: P.o. Box 47936, 00100 Naivasha (Kenya) | Website: <https://kengen.co.ke/> | Name of unit or department: Electricity Generation, Olkaria - **Business or sector:** Electricity, gas, steam and air conditioning supply

- Instrumentation and Controls
- Basics of geothermal well drilling technology
- Corrective maintenance of power plants
- Routine motor and generator maintenance
- Disabling and assembling of electrical equipment during Rig down and Rig up
- Involved in electrical installations

## LANGUAGE SKILLS

Other language(s):

**English**

**LISTENING C2 READING C1 WRITING C2**

**SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2**

**German**

**LISTENING B1 READING B1 WRITING B1**

**SPOKEN PRODUCTION B1 SPOKEN INTERACTION B1**

## DIGITAL SKILLS

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### Software and Office Tools

Microsoft Office / Microsoft Excel / Microsoft Word / Microsoft Powerpoint / Team-work oriented / Outlook / Zoom / Google Drive

### Programming Languages:

Programing: pyhton, C++, PHP, HTML, JavaScript, Css, mysql

### Simulation and CAD Tools:

Matlab Simulink PSCAD Multisim Proteus Electronic Work Bench Power World Simulator

### Data Analysis and Machine Learning:

Data Analysis and Machine Learning

### Software Development and Programming:

AI and Neural Networks / Cloud Computing (AWS, Azure, Google Cloud) / Programming and Software Development / Integrated Development Environments (IDEs) like Visual Studio and PyCharm

### Database Management:

Database Management / InfluxdB

### Freelancing and Expressed Writing:

Freelancing Platforms (Upwork, Fiverr) / Freelancing Skills / Expressed writting and editing skills / Professional Writing and Editing Skills / Technical Documentation

### Project Management and Organizational Skills:

Project Management Tools (Microsoft Project, JIRA, Trello) / Resource Allocation / Time Management and Scheduling / Google Docs / Organizational and planning skills / Decision-making

### Social Media Skills:

Social Media Management (Facebook, Twitter, LinkedIn) / Content Creation and Marketing / Blogging Platforms (WordPress, Medium)

### Interpersonal and Soft Skills:

Public Speaking and Presentation Skills / Leadership and Team Collaboration / Problem-Solving and Critical Thinking / Creativity and Innovation / Adaptability and Resilience

### Tools for Enhanced Productivity:

Note-taking Apps (OneNote, Evernote) / Collaboration Tools (Slack, Microsoft Teams) / Task Management Apps (Asana, Todoist) / Design and Prototyping Tools (Figma, Adobe XD)

## PUBLICATIONS

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[2024]

### A Survey of LoRaWAN-integrated Wearable Sensor Networks for Human Activity Recognition: Applications, Challenges and Possible Solutions.

N. M. Obiri and K. Van Laerhoven, "A Survey of LoRaWAN-Integrated Wearable Sensor Networks for Human Activity Recognition: Applications, Challenges and Possible Solutions," in *IEEE Open Journal of the Communications Society*, vol. 5, pp. 6713-6735, 2024, doi: 10.1109/OJCOMS.2024.3484002.

[2023]

### **Long-Range Wide Area Network (LoRa-WAN) Connectivity and Range Evaluation in a Rural Setting**

**Nahshon M. Obiri** and Humphry Shikunzi, "Long-Range Wide Area Network (LoRa-WAN) Connectivity and Range Evaluation in a Rural Setting," *International Journal of Computer Applications*, vol. 185, no. 3, pp. 61-67, 2023.

[2021]

### **Anomaly Detection for Raw Water Quality – A Comparative Analysis of the Local Outlier Factor Algorithm and the Random Forest Algorithms**

M. Nahshon, W. M. Ciira and K. Henry, "Anomaly Detection for Raw Water Quality – A Comparative Analysis of the Local Outlier Factor Algorithm and the Random Forest Algorithms" *International Journal of Computer Applications*, vol. 174, no. 26, pp. 47-54, 2021. DOI: 10.5120/ijca2021921196

[2021]

### **A Raw Water Quality Monitoring System using Wireless Sensor Networks**

M. Nahshon, W. M. Ciira and K. Henry, "A Raw Water Quality Monitoring System using Wireless Sensor Networks," *International Journal of Computer Applications*, vol. 174, no. 21, pp. 35-42, 2021. DOI: 10.5120/ijca2021921113

## **NETWORKS AND MEMBERSHIPS**

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[ 11/06/2017 – Current ] Kenya

### **Graduate Engineer (Electrical and Electronic Engineer)**

Engineering Board of Kenya (EBK)

Registered Number: B12410

[ 15/12/2016 – Current ] Kenya

### **Associate Member**

Geothermal Association of Kenya (GAK)

Registered Number: 200

## **DRIVING LICENCE**

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**Driving Licence:** B

## **CONFERENCES AND SEMINARS**

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[ 10/11/2019 – 14/11/2019 ] Nyeri, Kenya

### **DeKUT International Conference on Science, Technology, Innovation and Entrepreneurship**

Presented a research paper on: A Study on the Performance of LoRa in a Rural Environment: Connectivity and Range Evaluation

[ 10/09/2016 – 20/09/2016 ] Naivasha, Kenya

### **Workshop: Geothermal Projects and Finance Management**

Workshop: Geothermal Projects and Finance Management.

Key Area: Emerging Trends in Project Management.

[ 22/05/2025 ] University of Siegen

### **Center for Sensor Systems PhD Forum**

PhD Forum:

Presented the following:

POSTER: LoRaWAN-integrated Wearable Sensor Networks for Remote Human Activity Recognition: Applications, Challenges, and Possible Solutions: A Review.

LIGHTNING TALK: LoRaWAN Path Loss Measurements in an Indoor Setting, including Human and Environmental Effects.

Link: [https://www.uni-siegen.de/zess/kombibox/zess\\_phd\\_forum\\_2024.html](https://www.uni-siegen.de/zess/kombibox/zess_phd_forum_2024.html)

## PROJECTS

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[ 05/01/2016 – 18/08/2016 ]

### **Text Message Based Electrical Devices Monitoring and Control System Using GSM Technology**

System Development.

Undergraduate studies requirement.

[ 03/01/2020 – 10/05/2021 ]

### **A Water Quality Monitoring System using Wireless Sensor Networks**

Postgraduate Research

## HONOURS AND AWARDS

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[ 30/03/2023 ] German Academic Exchange Service (DAAD)

### **Kenyan - German Postgraduate Training Programme, 2023/24**

A scholarship by the DAAD for further study and training.

Link: <https://www.daad-kenya.org/en/>

[ 26/09/2018 ] Dedan Kimathi University of Technology

### **Scholarship Award**

MSc. Telecommunication Engineering

Full Sponsorship.

[ 10/12/2013 ] Dedan Kimathi University of Technology

### **Merit Awards and Honors**

Best Performance Overall: Position Two (First Year)

Bachelor of Science in Electrical and Electronic Engineering

[ 10/12/2014 ] Dedan Kimathi University of Technology

### **Merit Awards and Honors**

Best Performance Overall: Position Two (Second Year)

Bachelor of Science in Electrical and Electronic Engineering

[ 10/12/2016 ] Dedan Kimathi University of Technology

### **Merit Awards and Honors**

Best Performance Overall: Position Two (Fourth Year)

Bachelor of Science in Electrical and Electronic Engineering

[ 10/09/2016 ] Geothermal Association of Kenya (GAK)

### **Training Grant**

## MANAGEMENT AND LEADERSHIP SKILLS

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### Departmental Examinations Coordinator

Dedan Kimathi University of Technology

2021 till 2023.

### Departmental Undergraduates' Engineering Projects Coordinator

Dedan Kimathi University of Technology

2019 to 2020

### Students Leadership

Speaker of the Congress

2015 to 2016

Dedan Kimathi University of Technology

## HOBBIES AND INTERESTS

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### Hobbies

- Travelling
- Soccer activities
- Watching plays and art performances
- Researching
- Coding etc.

## VOLUNTEERING

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[ 05/08/2017 – Current ] Nyeri, Nairobi

### Community Services

- Charity donations mainly at Nyeri and Kasarani, Nairobi – Kenya.
- Volunteering movements like tree planting.
- Fund-drive activities organizing and chairing.