

# GIDEON MAINA

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## PROFESSIONAL EXPERIENCE

### Senior IoT Engineer

Oct. 2021 - Present

[Code For Africa](#) - [sensors.AFRICA](#), East and West Africa

- Spearhead the sensor projects by overseeing the Design For Manufacture process and give direction to the pioneering IoT projects in air quality and noise monitoring.
- Collaborate with the tech team to develop, maintain and improve software and hardware development processes:
- Develop projects ideas and monitor progress against set timelines using productivity tools like Slack, Trello and GitHub Projects.
- Perform CI/CD for the sensors.AFRICA micro-services and core backend APIs.
- Create web apps to be used internally by the team for monitoring, visualization, project-tracking and perform system specific functions like Over The Air updates.
- Perform API integrations and data integrations from other public data sources and services with sensors.AFRICA's applications.
- Write and test PostgreSQL and InfluxDB query scripts for API endpoints and data archiving Cron Jobs.
- Monitor the performance of AWS hosted services and keep track of the error logs using Sentry.
- Review and approve firmware codebases for the sensors hardware both for the Arduino framework.
- Review and approve hardware schematics and PCB designs.
- Shape the strategies for standardised sampling, components lifecycle, data collection and data management protocols.
- Improve and optimise the ongoing performance, scalability, and reliability of sensors.AFRICA's software systems to support the growing size of the sensor networks.
- Offer training on sensor deployment for our partners across Africa.

### Freelance Web Developer and Consultant

2019 - Present

- Offer web development services and maintain deployed applications for clients' businesses.
- Offer consultancy on the best path to take for a web project such as choosing the best tech stack, hosting services and productivity tools.
- Perform CI/CD for existing clients' projects to improve performance and stay up to date with security features and API enhancements.
- Troubleshoot server issues and perform debugging to solve downtime issues.
- Develop API integrations for existing projects.

### Electrical Engineer

Aug 2017 - Aug 2018

[Moderate Limited](#), Kenya

- Developed strategies to execute electromechanical projects.
- Supervised casual workers and technicians in ongoing projects.
- Maintained the company's WordPress website and IT infrastructure.

### Electrical Engineering Intern

[Kenya Power & Lighting Company](#), Kenya

Collaborated with different teams to perform daily activities in the Operations and Maintenance (O&M), Construction, System Protection and Electrical Plant departments.

## Engineering Intern

Jun 2015 - Sep 2015

[Powegen Technologies](#), Kenya

Supervised a small team of technicians to install prepaid meters and connect homes to the power grid in Kibera settlement in Nairobi as part of Kenya's government Last Mile initiative.

## Engineering Intern

[Kenya Airports Authority](#), JKIA, Kenya

Coordinated with teammates in the electrical and electronics departments at Jomo Kenyatta International Airport to schedule maintenance and repair for various systems including Aviation Ground Lighting (AGL) systems, Apron Floodlighting, Streetlighting, Diesel generators, Radio telemetry and crash alarm system, Private Automated Branch Exchange (PABX) system, VHF radio transceivers and Public Address (PA) systems.

## EDUCATION

### BSc. Electrical and Electronics Engineering

Sept. 2012 - June 2017

Jomo Kenyatta University of Agriculture and Technology

Juja, Kenya

### Hydroponic Farming Technology

Aug. 2020 - Dec. 2020

Miramar International College

Kiambu, Kenya

### Self-Taught Developer and DevOPs Engineer

June 2019 - present

## SKILLS

1. Programming Skills: JavaScript, PostgreSQL, Flux, C++, Python, MongoDB
2. Development Tools: Arduino, PlatformIO, KiCAD, Proteus, Eagle
3. Cloud Computing: AWS, DevOps, Docker, Cloud Security, CI/ CD automation
4. Project Management: Agile Development, Leadership
5. Productivity tools: Slack, Trello, Airtable
6. Soft Skills: Public Speaking, Technical Writing, Problem Solving

## CONFERENCES

1. [Clean Air Catalyst](#) participant held in Nakuru, Kenya November 2022 - March 2023
2. [CAMS-NET / AfrigAir](#) conference participant held in Kigali, Rwanda March 2023
3. [Respira](#) , speaker held in Nakuru, Kenya April 2023
4. [ASIC](#) conference speaker and panelist held in Accra, Ghana in October 2023
5. [Summer school on Air Quality and Prevention](#) speaker and trainer held at Kwame Nkrumah University of Science and Technology in Kumasi, Ghana October 2023
6. [DCN Africa](#) Inaugural Event panelist held in Lusaka, Zambia November, 2023

## ACTIVITIES & INTERESTS

- [JEMA](#) and [Ocean Conservancy](#) member and volunteer from 2016-2017
- Greenpeace Africa volunteer from 2017 - 2018
- [Tolu Elumelu Foundation](#) Fellow in 2021
- Nairobi Clean Air Catalyst member from 2022 - Present
- IEEE Kenya chapter member from 2022 - Present
- [Hack to The Rescue Air Quality Hackathon](#) participant in December 2023