Synopsis

Name: Jeremiah Tetteh

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Location: Adjetey Adjei Telly Street, East Legon Hills – Adenta, Accra

Relocation: Yes

Visa Status: Ghanaian citizen

Attributes: 7+ years in Embedded Systems & IoT Development | 5+ years in Electrical Circuit Design & Solar Energy Systems | 5+ years in MATLAB & AI for Engineering Applications

Education: BSc. Telecommunications Engineering 2020
Level 3 Diploma Electrical & Electronics Engineering 2017

Overview

Given the opportunity, my academic foundation in Telecommunications Engineering and Electrical & Electronics Engineering, combined with practical experience in embedded systems, IoT, and image processing, prepares me to make meaningful contributions in today's rapidly evolving tech landscape. Throughout my journey at Ghana Communication Technology University (GCTU), I was exposed to real-world applications of electronics and system automation, gaining hands-on experience in microcontroller programming, circuit design, and intelligent hardware systems.

In the course of my academic and research development, I have:
(1) Designed and built a Free Space Optical MIMO system for real-time data transmission,
(2) Constructed and tested an FM receiver as part of core electronics coursework,
(3) Developed MATLAB-based deep learning solutions using CNNs (ResNet-101) for waste image classification,
(4) Evaluated energy cost-saving methods through Grey Wolf and Particle Swarm Optimization techniques using MATLAB and Simulink under the supervision of my research supervisor.

I also collaborated on a Local Server Database project and a MATLAB Deep Learning (Image Processing) project in 2021 and 2022 respectively, contributing to backend development and intelligent system design using tools such as Laravel, MATLAB, Arduino, Apache, XAMPP, PHP, and Node.js. My input in these projects involved proposing and implementing smart, practical solutions to accelerate development goals and ensure technical efficiency.

In addition to academic and research projects, I have also volunteered my expertise to support peers and students globally, helping them troubleshoot and implement solutions in areas like MATLAB automation, image processing, and embedded system debugging. Notable contributions include assisting with MATLAB SMTP setup for real-time Raspberry Pi camera alerts and resolving a Dateshift error in a people counting system using vision.CascadeObjectDetector and MultiObjectTrackerKLT. These moments not only strengthened my technical depth and debugging instincts but also refined my ability to communicate effectively, teach others, and build trust in collaborative tech spaces.

My dedication to innovation and applied engineering also led to a co-authored research paper titled *"Applications of Deep Learning Convolutional Neural Networks for Waste Segregation and Prospects of Waste-to-Energy in Ghana,"* presented at the 2nd African International Conference on Industrial Engineering and Operations Management in Harare, Zimbabwe. These experiences have deepened my research capabilities and reinforced my commitment to solving real-world challenges through STEM advancement.

Beyond research, I have organized and led hands-on seminars in electronics, robotics, and embedded systems as a student leader, further sharpening my communication and mentorship skills. I believe the future of technology lies in cross-cutting innovation, and I am fully prepared to contribute.

Going forward, I would like to apply my knowledge in electronics, embedded systems, IoT, automation, and electrical engineering to areas such as additive manufacturing, novel electronics, smart systems, intelligent automation, or artificial intelligence themes. I am enthusiastic about joining a forward-thinking environment where I can contribute to groundbreaking solutions and grow as a resourceful researcher in the field.

Jeremiah Tetteh

JEREMIAH TETTEH

Embedded Systems & AI Research Engineer | IoT Innovator | MATLAB + Victron Specialist

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LinkedIn
ResearchGate
Academia

Profile

Graduate Applicant in Embedded Systems, IoT, or Intelligent Automation, seeking a fully funded master's program to advance research and innovation in smart technologies, renewable energy, and intelligent systems integration.

Core Competencies

- Embedded Systems Design | Circuit Analysis & Troubleshooting | Automation
- Internet of Things (IoT) | Sensors & Wireless Communication | Robotics
- MATLAB & Simulink | Signal & Image Processing | CNNs
- Solar Energy Systems (Victron) | Power Optimization | Smart Grid Tech
- Additive Manufacturing | AI Applications | Research & Development

Research & Publication

Thesis

Solid Waste Segregation Using Convolutional Neural Networks in MATLAB, GCTU Telecommunications Engineering Dept: ***2020***

Publication

"CNNs for Waste Segregation and Prospects of Waste-to-Energy in Ghana"
Presented at the 2nd African International Conference on Industrial Engineering and Operations Management, Harare, Zimbabwe.
[*http://www.ieomsociety.org/harare2020/papers/681.pdf]*

Jeremiah's Profile

Professional Traits

Strategic	Quickly identifies patterns and develops effective solutions in dynamic situations.
Learner	Driven by a constant desire to learn and self-improve.
Ideation	Able to creatively connect ideas across disciplines to generate innovation.
Futuristic	Inspired by possibilities and driven by a forward-thinking mindset.
Self-Assurance	Confident decision-maker guided by a strong internal compass.

Education

BSc. Telecommunications Engineering
Ghana Communication Technology University — Tesano, Accra
2017 – 2020 | Second Class Honors (Upper Division)

Level 3 Diploma in Electrical & Electronics Engineering
City & Guilds of London Institute – GCTU
2016 – 2017 | Distinction

Solar Energy Systems (Victron Certified)
Victron Energy, The Netherlands – Urban Plug Energy Ltd (Accra)
March 2022

Relevant Experience

Experience

▶ IoT & Embedded Systems Engineer — Hive Consult (Hybrid, Part-Time)
March 2025 – Present

- Designed and deployed 5+ IoT-based automation systems using ESP8266 and Arduino.
- Developed sensor-based climate control and smart agriculture systems.
- Mentored students in advanced embedded design and system integration.

▶ Usability Engineer & Generative Ai Researcher — MathWorks (Remote)
August 2024 – Present

- Conduct usability research and structured testing on MATLAB and Simulink products, identifying workflow challenges and suggesting enhancements for improved user experience.
- Collaborate with the UX team to evaluate interface behavior, accessibility, and intuitiveness of engineering tools, influencing iterative design improvements.
- Perform Generative AI research focused on integrating LLM capabilities into MATLAB's Help Center, exploring AI-augmented support for engineering users.
- Analyze and optimize user interaction data from the Help Center to improve content relevance, searchability, and support workflows.
- Contribute to internal discussions on advancing AI-driven tools within MATLAB's documentation and support environments.

▶ Electronics Engineer — Awusi Robotics (Hybrid, Part-Time)
April 2018 – November 2023

- Built and tested circuits for robotics and automation projects
- Integrated sensors, actuators, and wireless modules into Arduino/NodeMCU systems.
- Applied MATLAB Deep Learning Toolbox for image classification.

▶ Research Assistant — Ghana Communication Technology University
January 2024 – June 2024

- Evaluated neural networks for waste classification using MATLAB
- Supported academic papers and engineering analysis tasks in AI for embedded systems.

▶ IoT Engineer — Edenway Foundation (Hybrid)
October 2024 – February 2025

- Configured IoT nodes and gateways to send real-time sensor data.
- Configured embedded firmware in C/C++ for device communication and logging.
- Optimized cloud and edge performance of IoT systems for research and education.

▶ Solar Systems Engineer (Victron Energy) — Urban Plug Energy Ltd (Hybrid)
March 2022 – May 2022

- Installed and configured Victron Energy MultiPlus and SmartShunt systems.
- Conducted diagnostics and battery monitoring via the VictronConnect app.
- Delivered reliable off-grid and hybrid solar installations for SMEs and homes.

Other Professional Experience

▶ **IT Support Specialist — Sansar Innovations Ltd**
January 2023 – June 2023

- Managed internal hardware/software systems and network security.
- Optimized website performance and implemented backup solutions.

▶ **Emergency Systems Administrator — National Signals Bureau**
September 2020 – October 2021

- Provided real-time IT support for emergency response agencies.
- Designed systems for coordination between national services (Police, Fire, ECG, etc.)

▶ **Teaching & Lab Assistant — Ghana Communication Technology University**
November 2018 – August 2019

- Supported electronic lab sessions and simulations.
- Guided students in circuit design, Arduino programming, and research methodologies

References

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