Daniel Opoku

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RESEARCH

Areas: Electrical and Electronic Engineering · Artificial Intelligence · Automotive Engineering · Biomedical Engineering · Computer Networks and Communications · Control and Systems Engineering

RESEARCH SUMMARY

19	35	3	0	0.32	0%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 19 publications listed below, 2019–2026. Field-weighted impact is the mean over the 19 works scored for it; 1.00 is the world average for works of the same field, type and year. 0 of the 19 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Lecture (Dr.) 2016–present
Electrical and Electronics Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Postdoctoral Research Associate 2013–2014
Electrical and Computer Engineering, North Carolina Agricultural and Technical State University, Greensboro, United States

EDUCATION AND QUALIFICATIONS

PhD Electrical Engineering 2008–2013
Electrical and Computer Engineering, North Carolina Agricultural and Technical State University, Greensboro, United States

BSc Electrical and Electronics Engineering 2003–2008
Electrical and Electronics Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

DISTINCTIONS, MEMBERSHIPS AND SERVICE

Ghana Institute of Engineering 2019–present
Electrical, Accra, Ghana

PUBLICATIONS

Journal articles 19

1. Abena Sarpomaa Appiah, Daniel Kwegyir, Francis Boafo Effah, **Daniel Opoku**, Peter Asigri, Emmanuel Kwaku Anto, Nana Maryam Abdul-Bassit Munagah, Kelvin Worlanyo Tamakloe (2026). An improved Pelican Optimization Algorithm with velocity effect. *Journal of Electrical Systems and Information Technology*. https://doi.org/10.1186/s43067-026-00356-8
2. Peter Asigri, Emmanuel Frimpong, **Daniel Opoku**, Daniel Kwegyir, Yaw Opoku Mensah Sekyere, Francis Boafo Effah (2026). Combined optimal power flow and profit maximization in the power sector using an

enhanced multi-objective grey wolf optimizer. *Journal of Electrical Systems and Information Technology*. https://doi.org/10.1186/s43067-026-00350-0

3. Emelia Agyemang Yeboah, Daniel Kwegyir, Priscilla Oyeladun Ajiboye, Peter Asigri, **Daniel Opoku**, Kwofie Simeon Edayi, Paula Esi Anamoah Doughan, Emmanuel Asuming Frimpong (2026). Development of an IoT-enabled smart plug for intelligent energy monitoring in household appliances. *Journal of Electrical Systems and Information Technology*. https://doi.org/10.1186/s43067-026-00370-w
4. Kofi Afum Danso, Peter Asigri, Nicholas Kwesi Prah II, Daniel Kwegyir, Richeson Akwanfo, Mawuli Kweku Afenu, Nana Ama Abaka Mensah, Adwoa Darkoa Addi-Oppey, **Daniel Opoku** (2026). Profit Maximization for Generating Companies Using Chaotic Whale Optimization with Inertia Weight. *Electrical Engineering and Energy (ELENE)*. https://doi.org/10.64470/elene.2026.22
5. Elvis Tamakloe, Benjamin Kommey, Jerry John Kponyo, **Daniel Opoku**, Francis Boafo Effah (2026). Remaining Useful Lifetime Prediction of Distribution Transformer Using Dynamic Multi-Scale Attention-based CNN-LSTM. *Andalas Journal of Electrical and Electronic Engineering Technology*. https://doi.org/10.25077/ajeeet.v6i1.210
6. Daniel Kwegyir, Francis Boafo, **Daniel Opoku**, Emmanuel Frimpong (2024). DATA DRIVEN RULE-BASED PEAK SHAVING ALGORITHM FOR SCHEDULING REFRIGERATORS. *Carpathian Journal of Electrical Engineering*. https://doi.org/10.34302/cjee/qseg2220
7. Benjamin Kommey, Elvis Tamakloe, **Daniel Opoku**, Tibilla Crispin, Jeffrey Danquah (2024). Disease Detection in Tropical Tomato Leaves via Machine Learning Models. *Jurnal ELTIKOM*. https://doi.org/10.31961/eltikom.v8i2.1340
8. Benjamin Kommey, Oniti Jesutofunmi Isaac, Elvis Tamakloe, **Daniel Opoku4** (2024). Reinforcement Learning Review: Past Acts, Present Facts and Future Prospects. *IT JOURNAL RESEARCH AND DEVELOPMENT*. https://doi.org/10.25299/itjrd.2023.13474
9. Elvis Tamakloe, Benjamin Kommey, Emmanuel Akowuah, **Daniel Opoku** (2023). A Detailed Review on The Denial of Service (DoS) and Distributed Denial of Service (DDoS) Attacks in Software Defined Networks (SDNs) and Defense Strategies. *International Journal of Applied Sciences and Smart Technologies*. https://doi.org/10.24071/ijasst.v5i2.6380
10. Benjamin Kommey, **Daniel Opoku**, Albert Asare-Appiah, George Ofori Wiredu, Paul Kwasi Baah (2023). An Ad-Hoc Crime Reporting Information Management System. *International Journal of Informatics Information System and Computer Engineering (INJIISCOM)*. https://doi.org/10.34010/injiiscom.v4i2.11436
11. Francis Boafo Effah, Daniel Kwegyir, **Daniel Opoku**, Peter Asigri, Emmanuel Asuming Frimpong (2023). Short-Term EV Charging Demand Forecast with Feedforward Artificial Neural Network. *Jurnal Nasional Teknik Elektro*. https://doi.org/10.25077/jnte.v12n2.1094.2023
12. Peter Asigri, Francis Boafo Effah, **Daniel Opoku**, Daniel Kwegyir, Anthony Kweku Eshun, Britney Asantewaa Owiredu, Mourad Bin Shafiyu, Sagoe De-Roy Ekow (2023). Technical Performance of Grid-Connected Rooftop Solar PVs. *International Journal of Energetica*. https://doi.org/10.47238/ijeca.v8i2.223
13. Benjamin Kommey, **Daniel Opoku**, Jessica Lartey, Kirston Kumah, Mark Tantuo (2022). A Simple, Low-cost, Efficient and Smart Consumer Gas Leakage Detection System. *International Journal of Informatics Information System and Computer Engineering (INJIISCOM)*. https://doi.org/10.34010/injiiscom.v3i1.8371
14. Benjamin Kommey, Elvis Tamakloe, Henry Nunoo-Mensah, **Daniel Opoku** (2022). SMART VEHICLE IGNITION INTERLOCK: A CAR IGNITION INTERLOCK DEVICE FOR ALCOHOL IMPAIRED DRIVING. *Proceedings on Engineering Sciences*. https://doi.org/10.24874/pes04.01.008
15. Benjamin Kommey, Elvis Tamakloe, Gideon Adom-Bamfi, **Daniel Opoku** (2021). An alternative design and implementation of a solid state on-load tap changer. *Mechatronics Electrical Power and Vehicular Technology*. https://doi.org/10.14203/j.mev.2021.v12.104-109
16. BENJAMIN KOMMEY, SETH KOTEY, ERIC TUTU, **DANIEL OPOKU** (2021). PRIVATE SECURITY SURVEILLANCE SYSTEM. *Journal of Engineering Studies and Research*. https://doi.org/10.29081/jesr.v27i2.271
17. GIDEON ADOM-BAMFI, **DANIEL OPOKU**, BENJAMIN KOMMEY (2021). WELCOMING THE

SEMICONDUCTOR INDUSTRY IN GHANA: CHALLENGES AND RECOMMENDATIONS – A CASE STUDY. *Journal of Engineering Studies and Research*. https://doi.org/10.29081/jesr.v26i4.232

18. Benjamin Kommey, Seth Djanie Kotey, **Daniel Opoku** (2020). Ultrasonic Sensor-Based Automated Water Dam Shutter. *JITCE (Journal of Information Technology and Computer Engineering)*. https://doi.org/10.25077/jitce.4.01.1-4.2020

19. Adjei Stephen, N. Wilberforce Aggrey, **Opoku Daniel**, Mohammed Isah (2019). Probabilistic approach for shale volume estimation in Bornu Basin of Nigeria. *Journal of Petroleum and Gas Engineering*. https://doi.org/10.5897/jpge2019.0319