D.O.

ING. DR. DANIEL OPOKU

PROFESSIONAL ELECTRICAL AND ELECTRONIC ENGINEER
LECTURER AND RESEARCHER
KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

OBJECTIVE

Seeking a research consultancy opportunity where I can apply my knowledge and experience in instrumentation, control and automation to improve the living conditions of humanity.

PROFESSIONAL SUMMARY

Professional Electrical and Electronic Engineer with many years of research and development experience in intelligent systems, instrumentation, controls and automation and about 3 years of experience in consultancy.

EXPERIENCE

LEAD CONSULTANT • COMPTON GHANA INTEGRATED LTD • JULY 2018 - DATE

- **Risk Assessment and Security Audit for Volta River Authority (VRA):** Partook in proposal writing, pre-contract engagements, led a team of 6 consultants to conduct Risk Assessment and Security Audit for all the major VRA Installations, conducted oral presentations, made recommendations, wrote technical report.
- **Risk Assessment and Security Audit for ECG Installations in the Greater Accra Region:** Led a team of 6 consultants to conduct Risk Assessment and Security Audit for all the Bulk Supply Points, Substations/Switchyards and other facilities of ECG in the Greater Accra Region, conducted oral presentations, made recommendations, wrote technical report.

LECTURER AND RESEARCHER • KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY • NOVEMBER 2016 - DATE

- Teaching and Researching in the field of Instrumentations, Controls, Automation and Intelligent Systems.
- Marketing and Outreach Officer for KNUST Engineering Education Project (KEEP), and Africa Center of Excellence (ACE) Impact.
- Mentoring of Students and Supervising of Student Projects
- College of Engineering Innovation Team Member
- Design/Drawings for Instrumentation, SCADA systems
- Electrical Motors and Pump Circuits Design, Drawing and Specifications

NAVIGATION SYSTEMS ENGINEER/TEST ENGINEER • MERCURY DATA SYSTEMS INC, LEXINGTON KENTUCKY, USA. • SEPTEMBER 2014 – AUGUST 2016

- Design of Laboratory Testing Procedures for Navigation Sensors
- Research and Development of Sensor Noise Models for Navigation Sensors
- Simulation and Prototyping of Virtual Inertia Measurement Unit (vIMU)

POSTGRADUATE RESEARCH ASSOCIATE • ACIT CENTER, NORTH CAROLINA A & T STATE UNIVERSITY, GREENSBORO, NC, USA • SEPTEMBER 2013 – AUGUST 2014

- Concept Development for a Perception Inference Engine
- Server Administration for (ACIT) Center
- Proposal Writing and Technical Reporting

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SKILLS

Artificial Intelligence, Power Systems Analysis with PSS@E, Automation Systems (Instrumentation, Controls, PLC, SCADA, etc), Design and Simulation using MATLAB/SIMULINK/ SIMSCAPE, Native iOS Developer

EDUCATION

PHD IN ELECTRICAL ENGINEERING • JULY 2013 • NORTH CAROLINA A & T STATE UNIVERSITY

- **Dissertation Topic:** A Novel Approach to Intelligent Navigation of a Mobile Robot in a Dynamic and Cluttered Indoor Environment
- GPA of 4.0/4.0
- Among Top 10 Graduating Students.

BSC IN ELECTRICAL AND ELECTRONIC ENGINEERING • JULY 2007 • KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

- First Class Honors with CWA of 76.38%
- Top 10 Graduating Students in Electrical and Electronic Engineering Department

RESEARCH AREAS

- **Modern Controls Theories and Applications**
- **Unmanned Aerial Vehicles**
- **Electric Vehicles**
- **Artificial Intelligence and IoT**
- **Sensors and Instrumentations**
- **Industrial Control and Automation**

CURRENT COURSES TAUGHT

UNDERGRADUATES

- **Electromechanical Energy Conversion and Transformers**
- **Digital Systems**
- **Electrical Measurement and Instrumentations**
- **Classical Control Systems**
- **Digital Control Systems**

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POSTGRADUATES

- **Computational Methods and Tools**

VOLUNTEER EXPERIENCE OR LEADERSHIP

- **Committee Chairman:** Unity Hall Fellows Welfare Committee, FECE Course Mapping Committee, College of Engineering Online Learning Facilitation Committee.
- **Committee Member:** Tracer Committee, CoE Innovation Committee, KNUST Online Training Core Team, etc.
- **Positions:** Department Industrial Liaison Officer, College Industrial Presentations Coordinator, Examinations Officer, Department Field Trip Coordinator, etc.

RESEARCH PUBLICATIONS

[1] **Opoku, D.,** Benjamin Kommeny (2020), FPGA-Based Intelligent Traffic Controller with Remote Operation Mode, International Journal of Innovative Technology and Interdisciplinary Sciences, Volume 3, Issue 4, DOI: https://doi.org/10.15157/IJITIS.2020.3.3.490-500

[2] Adom-Bamfi, G., **Daniel Opoku,** Benjamin Kommey (2020), Welcoming the Semiconductor Industry in Ghana: Challenges and Recommendations – A Case Study, Journal of Engineering Studies and Research, Volume 26, No. 4, pp 27-33,

[3] Kommey B., S. D. Kotey, **D. Opoku (2019)**, Patient Medical Emergency Alert System, International Journal of Applied Information Systems (IJAIS), Volume 12, ISSN: 2249-0868.

[4] Kommey B., Seth D. Kotey, **D. Opoku (2019)**, Biometric Course Attendance Monitor for KNUST, International Journal of Industrial Research and Applied Engineering (JIRAE), Volume 3, pp. 86-91, e-ISSN 2407-7259.

[5] Kommey B., Seth D. Kotey, **D. Opoku (2020)**, Ultrasonic Sensor-Based Automated Water Dam Shutter, Journal of Information Technology and Computer Engineering (JITCE), Volume 4, pp 1-4.

[6] **Opoku, D.**, A. Homaifar, and E. Tunstel (2013). The A-r-Star (Ar*) Pathfinder. International Journal of Computer Applications; vol. (67), pp. 0975-8887.

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[7] **Opoku, D.**, A. Homaifar, and E. Tunstel (2013). Towards the Incremental A-r-Star, Conference paper, World Conference on Soft Computing, Volume (312), pp. 191-202

[8] **Opoku, D.**, A. Homaifar. (2010). Non-Classical Multi-Sensor Data Fusion Techniques. Conference proceedings, IEEE Aerospace Conference, ISBN 978-1-4244-3888-4.

[9] **Enyinna N**., A. Karimoddini, **D. Opoku**, A. Homaifar, S. Arnold. (2015). Developing an interval type-2 tsk fuzzy logic controller; Proc. of Fuzzy Information Processing Society (NAFIPS)/World Conference on Soft Computing (WConSC), 2015. Pp.1-6

[10] **Opoku, D.**, A. Homaifar, and E. Tunstel (2014), RFID-augmentation for improving long-term pose accuracy of an indoor navigating robot, 2014 IEEE International Conference on Systems, Man and Cybernetics (SMC). Pp. 796-801

[11] **Opoku, D.**, A. Homaifar, and E. Tunstel (2016), Path Planning for Planetary Surface Exploration Using Incremental A-r-Star Pathfinder," Proc. 2016 NSBE Aerospace Systems Conference, Arlington, VA, Aug. 2016, pp. 144-148.

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