

Oliver Kornyo(PhD)

Address: Post Office EJ 504. Ejisu, Kumasi, Ghana

Email: okornyo@gmail.com / oliverkornyo@knust.edu.gh

Mobile: +233552490079/+233244064000

ACL, Oracle RDBMS, ITIL. Linux DB, PMI, BSc. Comp.Sci, MSc.IT, PhD IT

1. PERSONAL PROFILE

Oliver Kornyo is a highly motivated Mathematical and Computer Scientist with the following:

- Over a decade of experience in System Security management, applying Artificial Intelligence (A.I.) and Machine Learning techniques, Advanced Metering Infrastructure (A.M.I.) Solutions, smart metering application management, development of an application for state of-the-art Database Management, software testing in smart metering Billing, Data mining and simulation techniques in the Utility distribution.
- Keen interest in researching in fraud and threat detection for systems, data science management Techniques to solve real-life challenges using Machine learning techniques for Data Mining.
- A flair for writing, effective communication skills and an interactive teaching style to promote effective participation and enthusiasm while facilitating learning.
- Highly organized ability to effectively prioritize and coordinate multiple tasks to accomplish projects with creativity.
- Exceptionally flexible adaptation skills and capacity to adapt to challenging situations and environments and to work with distinction under little supervision.

2. EDUCATION

INSTITUTION [DATE FROM – DATE TO]	DEGREE(S) OR DIPLOMA(S) OBTAINED
KNUST, Computer Science Department (2020 to 2024)	PhD. Information Technology (Securing Renewable Energy System in Rural Ghana: A Machine Learning Approach to Fraud and Threat Detection Via Advanced Metering Infrastructure)
KNUST, Computer Science Department (2012 to 2014)	MSc. Information Technology (Fraud Detection Techniques in Data Mining.) Research
University for Development Studies, Tamale, Ghana (2003 to 2007)	BSc. Mathematical Science (Computer Science option)

3. PROFESSIONAL CERTIFICATES

INSTITUTION [DATE]	CERTIFICATE OBTAINED
Holley Technology, Hangzhou, China (2017)	Certificate for Trainer of Training in SOFTWARE Testing & Database Security

Tata Consultancy Services, New Delhi, India (2016)	Certificate in Linux Database Administration, Oracle RDBMS and ITIL
Knowledge Tree International Ghana (2018)	Project Management Professional Institutes (PMI)
QUEST Technologies (2017)	Certificate in Advanced Cyber Security Training
Rhythex Consulting Limited (2013)	Audit Command Language (A.C.L.)
Knowledge Tree International Ghana (2018)	Microsoft Project 2016

4. PROFESSIONAL EXPERIENCE

2025- Date: Kwame Nkrumah University of Science and Technology. Kumasi -Ghana (KNUST)
Position: Lecturer (Computer Science Department)

2024- 12/2024: Akenten Appiah-Menka University of Skilled Training and Entrepreneurial Development
 Kumasi - Ghana. (AAMUSTED)
Position: Lecturer (Information Technology Education)

2024 –Date: E.E.K CONSULTS \$ ELECTRICALS LTD, KUMASI (Part-Time Consultancy)
Position: Project Lead
Project 1: IT Software Implementation and Active Equipment at the Modernization of Komfo Anokye Teaching Hospital and Associated Infrastructure (KATH), Kumasi-Ghana.**Amount 120,000 US Dollars. On-Going.**

2021 –Date: E.E.K CONSULTS \$ ELECTRICALS LTD, KUMASI (Part-Time Consultancy)
Position: Chief- Executive Officer
Project 1: Generation, Operations, And Access to Energy at Lowest Carbon and Cost Solutions (Ghana Goals) – Innovate UK, KNUST, and Consortio Ltd (UK). **Amount 733,000 pounds. Completed (2024).**

Position: Project Manager
Project 2: Development of Enterprise Resource Management Systems for Masloc. Ghana **Amount 21,000 Dollars. Completed (2023).**

Position: Project Manager
Project 3: MINI-OFF-GRID Renewable Solar Project for total A.M.I energy solution in Yeboahkrom, a community in the Ejisu-Juaben Municipal Assembly, through the KNUSTTUM partnership for Ghana. **Amount 70,000 Euros. Completed (2021).**

Position: System Design and Implementation Lead
Project 4: Development of NET-Metering Billing Application for SG-MALL. **Amount 53,000 dollars. Completed. (2021).**

Position: Project Lead

Project 5: Development and Implementation of Mini-Grid Network Design and security Monitoring system for Fraud and Threat detection for PowerCom Smart Metering Sierra Leone. Amount 355,000 dollars. Completed. (2022). **Duties:**

To Develop and implement Secured system for the following objectives of the projects:

1. The ability to monitor the entire network system from a control point for academic research.
2. The ability to control energy usage from the user point (demand-side) and manage the Solar Energy generation(supply-side) for A.M.I. solution Research.
3. Total Energy Audit using the DCU and Areal Sensors Technology with Dynamic Power Line Communication (DPLC)
4. Central station monitoring of Household classification of energy usage in the community to avoid energy wastage.
5. Remote Data collection of real-time consumption for research analysis and community education about renewable energy with an A.M.I. solution implemented.
6. Management of Technical Loss control based on supply-side Management (S.S.M.) and Demand Side control (D.S.C.)

2010 – 2021: Electricity Company of Ghana (E.C.G.), Kumasi

Position: Regional Database Administrator (Ashanti Region) and System Administrator for GEDAP Projects.

Duties:

1. System Energy Management of smart metering end-to-end solutions
2. Training on Energy conservation and Tariff Calculation principles for the energy billing system.
3. Application of Artificial Intelligence (A.I.) in Smart Metering Solutions
4. Oracle Unix Database Security Management
5. Providing technical user training and assistance in using software, hardware and personal computers, and server networks.
6. Developing Data Policy for Data access and data integrity for various system database
7. Constantly taking system backups for various Databases in the organization for safekeeping.
8. Management of operational data storage and its security.
9. Development and Management of the System's software
10. Controlling Server and customer billing records for Management

2008 – 2010: Akuse Secondary and Technical School, Akuse. Ghana

Position: Tutor in Mathematics and I.C.T.

Duties:

1. The teaching of I.C.T. for all levels
2. Teaching Elective Mathematics and Core Mathematics for final-year students.
3. In charge of the Management of the I.C.T. Laboratory for the school

2007 – 2008: Ministry of Defence, Tema. Ghana

Position: System Administrator (National Service Personnel)

Duties:

1. The teaching of I.C.T. for infantry Battalion in Ministry of Defence staffs.
2. Implementation and Design of Systems and their connectivity problems, including user access and component configuration (LAN and WAN).
3. Wrote and maintained system documentation and proposed new system Architecture.
4. Prepared monthly developmental and operational reports to Management.
5. Responsible for Local & Wide Area Networks (LAN/WAN)

4. CONFERENCES/SEMINARS/ WORKSHOPS AND ASSOCIATION

1. KNUST Research Fellow. <https://tcc.knust.edu.gh/people/research-fellows/oliver-kornyo>
2. Smart City Development Training with the Internet of Things (I.O.T.) (Dubai, 2022)
3. Business Solutions in A.M.I. for Smart Meters database for Energy Solutions (China 2019)
4. Business Solution in A.I. Training for A.M.I. Soul, South Korea (*Database Security for Android Point of Sales Devices*), 2018.
5. Software testing and dubbing conference for trainer of trainers in China, 2017
6. System Designed and Development architecture conferences in China, 2014
7. Effective Management, Communication Skills and Report Written, Kumasi, 2014
8. Management of Finance for Non-Finance Executives, Kumasi, 2013
9. Reduction of Cost and Budget for High Performance, Kumasi, 2011

5. KEY SKILLS

1. Advanced Cybersecurity Fraud Detection Techniques.
2. Python Programming for Data Analysis and Prediction
3. Advanced Metering Infrastructure (A.M.I.) Energy Solution Expert Knowledge.
4. Renewable Energy Designer and Integration of A.M.I. Solution Trainer
5. Training on Artificial Intelligence (A.I.) and Machine Learning Integration for projects.
6. Proficient in systems/network administration based on Microsoft Server 2008/2012 Platform and SQL Scripting database.
7. Hands-on experience in Systems Analysis & Design and Software Engineering
8. Database Management Systems (DBMS) MySQL, SQL-PLUS, ORACLE, MS SQL.
Disaster Recovery Backup & Restore

6 . LIST OF PUBLICATIONS

1. **Oliver Kornyo**; Benjamin Tei Partey; Michael Asante; Kwabena Owusu-Agyemang; Eric Osei Opoku; William Asiedu; Prince Clement Addo; Maxwell Dorgbefu, Jr.; Jesse Dampety; Siddique Abubakr Muntaka (2024). Enhancing AMI network security with STI model: A mathematical perspective. *journal=Internet of Things 2024-10 | Journal article DOI: [10.1016/j.iot.2024.101244](https://doi.org/10.1016/j.iot.2024.101244)*.
2. **Oliver Kornyo**, Michael Asante, Richard Opoku, Kwabena Owusu-Agyemang, Benjamin Tei-Partey, Emmanuel Kwesi Baah, Nkrumah Boadu.(2023). Botnet Attacks Classification in AMI Networks with Recursive Feature Elimination (RFE) and Machine Learning Algorithms. *journal={Computers & Security}*. <http://dx.doi.org/10.1016/j.cose.2023.103456>.

3. Alexander Boakye Marful; **Oliver Kornyo**; Michael Asante; Richard Opoku; Daniel Yaw Addai Duah; Benjamin Tei-Partey.(2023). Integration of Advanced Metering Infrastructure for Mini-Grid Solar PV Systems in Off-Grid Rural Communities (SoAMIRural). *Sustainability* =2023-05-04 | *Journal article* . doi: [10.3390/su15097526](https://doi.org/10.3390/su15097526) .
4. Richard Opoku; Gidphil Mensah; Eunice A. Adjei; John Bosco Dramani; **Oliver Kornyo**; Rajvant Nijjhar; Michael Addai; Daniel Marfo; Francis Davis; George Yaw Obeng.(2023). Machine learning of redundant energy of a solar PV Mini-grid system for cooking applications. *Solar Energy* =202309 | *Journal article*. doi: [10.1016/j.solener.2023.06.008](https://doi.org/10.1016/j.solener.2023.06.008) .
5. Emmanuel Kwesi Baah; Steven Yirenkyi; Dominic Asamoah; Stephen Opoku Oppong; Edward Opoku-Mensah; Benjamin Tei Partey; Anthony Kingsley Sackey; **Oliver Kornyo**; Evans Obu(2022). Enhancing Port Scans Attack Detection Using Principal Component Analysis and Machine Learning Algorithms.2022 | *Book chapter* . doi: [10.1007/978-981-19-8445-7_8](https://doi.org/10.1007/978-981-19-8445-7_8)
6. Boateng, ON and Nkrumah, B and Boafo, V and Amponsah, A and Tetteh, LA and Aning, J and **Oliver, K** and Adekoya, AF and Nti, IK and Bawah.(2022). A fraud prevention and secure cognitive SIM card registration model.*journal={Indian Journal of Science and Technology},volume={15},number={46},pages={2562--2569}, doi: [10.17485/IJST/v15i46.1658](https://doi.org/10.17485/IJST/v15i46.1658).*
7. Alhasan, Seiba and Abdul-Salaam, Gaddafi and Bayor, Lambert and **Oliver, Kornyo**(2021). Intrusion detection system based on artificial immune system: a review. *International Conference on Cyber Security and Internet of Things (ICSIoT)*}, pages={7--14},year={2021},organization={IEEE}. doi: [10.1109/ICSIoT55070.2021.00011](https://doi.org/10.1109/ICSIoT55070.2021.00011).

8. REFERENCES

1. Prof. Michael Asante

Head of Department of Computer Science
KNUST, Kumasi
Tel:(+233-208168613)
Email. masante.sci@knust.edu.gh /mickasst@yahoo.com

2. Prof. Kwasi Preko

Department Physics
KNUST, Kumasi
Tel:(+233-242026899
Email: kwasipreko.sci@knust.edu.gh

3. Prof. Yarhands Dissou Arthur

Department of Mathematics Education
Dean, Faculty of Applied Sciences and Mathematics Education (FASME)
Akten Appiah-Menka University of Skills Training and Entrepreneurial Development (AAMUSTED)
E-mails: ydarthur@aamusted.edu.gh or day1981boy@yahoo.com
Tel: +233(0) 244 07 19 73 or +233(0)595247749