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RESEARCH

Interests	NLP · Cheminformatics · Applied Cryptography · Blockchain Technology
Areas	Artificial Intelligence · Computer Vision and Pattern Recognition · Neurology · Computer Networks and Communications · Electrical and Electronic Engineering · Control and Systems Engineering

RESEARCH SUMMARY

28	351	7	6	3.34	41%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 28 publications listed below, 2015–2026. Field-weighted impact is the mean over the 17 works scored for it; 1.00 is the world average for works of the same field, type and year. 7 of the 17 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Examination Officer 2022–present
Computer Science, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

PUBLICATIONS

Journal articles 27

1. Rectta Adetor, Emmanuel Ahene, Christian Idan Frowne, Nana Amissah Amoah, Richard Adade, **Kwabena Owusu-Agyemang**, Rose-Mary Owusuaa Mensah Gyening, Justice Owusu Agyemang, Betty Agyei Kponyo, Enoch Acheampong, Jerry John Kponyo (2026). A Domain-Specific Ghanaian Sign Language Dataset for Healthcare Communication With Baseline Benchmarks. *IEEE Access*. https://doi.org/10.1109/access.2026.3732480
2. Emmanuel Ahene, Richmond Owusu Agyei, Rose-Mary Owusuaa Mensah Gyening, Kwasi Adu Obirikorang, Kate Takyi, **Kwabena Owusu-Agyemang**, Linda Amoako-Banning, Joojo Walker (2026). A deep learning-based automated Solar-Powered Fish Monitoring System. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0351628
3. Emmanuel Ahene, Christian Idan Frowne, Rectta Adetor, Nana Amissah Amoah, Richard Adade, **Kwabena Owusu-Agyemang**, Rose-Mary Owusuaa Mensah Gyening, Justice Owusu Agyemang, Betty Agyei Kponyo, Enoch Acheampong, Jerry John Kponyo (2026). A large scale multimodal dataset for healthcare domain Ghanaian sign language translation and retrieval based synthesis. *Scientific Reports*. https://doi.org/10.1038/s41598-026-43478-9
4. Osei Isaac, Benjamin Appiah, Daniel Commey, **Kwabena Owusu-Agyemang**, Michael Asante, Benjamin Hayfrom Acquah (2026). EdgeFence: Federated Temporal Graph Neural Networks for Lightweight, Adversarial Malware Detection in Distributed Edge Networks. *International Journal of Information Security*. https://doi.org/10.1007/s10207-026-01237-x
5. Daniel Opoku, **Kwabena Owusu-Agyemang**, James Benjamin Hayfron-Acquah, Rose-Mary Owusuaa Mensah Gyening (2026). SwinCNN+OE: A Swin Transformer and CNN Architecture for Breast Histopathology Classification With OOD and Grad-CAM Integration. *IEEE Access*. https://doi.org/

10.1109/access.2026.3650834

6. Augustina Dede Agor, Lawrence Kwami Aziale, Frank Kataka Banaseka, **Kwabena Owusu-Agyemang**, Selasie Aformaley Brown, Benjamin Tei Partey (2026). Trust and adaptiveness enhancements to PRFDRA for secure metaheuristic path selection in MANETs. *Future Technology*. https://doi.org/10.55670/fpll.futech.5.1.15
7. Frimpong Twum, Charlyne Carol Eyram Ahiable, Stephen Opoku Oppong, Linda Banning, **Kwabena Owusu-Agyemang** (2025). Employing transfer learning for breast cancer detection using deep learning models. *PLOS Digital Health*. https://doi.org/10.1371/journal.pdig.0000907
8. Rose-Mary Owusuaa Mensah Gyening, Michael Appiah Akoto, **Kwabena Owusu-Agyemang**, Linda Amoako-Banning, Kate Takyi, Peter Appiahene (2025). MeatScan: An image dataset for machine learning-based classification of fresh and spoiled cow meat. *Data in Brief*. https://doi.org/10.1016/j.dib.2025.112045
9. Nicodemus Songose Awarayi, Frimpong Twum, James Ben Hayfron-Acquah, **Kwabena Owusu-Agyemang** (2024). A Neural Architecture Search CNN for Alzheimer's Disease Classification. *ECTI Transactions on Computer and Information Technology (ECTI-CIT)*. https://doi.org/10.37936/ecti-cit.2024184.255728
10. Nicodemus Songose Awarayi, Frimpong Twum, James Ben Hayfron-Acquah, **Kwabena Owusu-Agyemang** (2024). A bilateral filtering-based image enhancement for Alzheimer disease classification using CNN. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0302358
11. Mohammed Iddrisu, Kate Takyi, Rose-Mary Owusuaa Mensah Gyening, Kwame Ofosuhene Peasah, Linda Amoako Banning, **Kwabena Owusu-Agyemang** (2024). An improved man-in-the-middle (MITM) attack detections using convolutional neural networks. *Multidisciplinary Science Journal*. https://doi.org/10.31893/multiscience.2025129
12. Oliver Kornyo, Benjamin Tei Partey, Michael Asante, **Kwabena Owusu-Agyemang**, Eric Osei Opoku, William Asiedu, Prince Clement Addo, Maxwell Dorgbefu, Jesse Damptey, Siddique Abubakr Muntaka (2024). Enhancing AMI network security with STI model: A mathematical perspective. *Internet of Things*. https://doi.org/10.1016/j.iot.2024.101244
13. 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. *Computers & Security*. https://doi.org/10.1016/j.cose.2023.103456
14. **kwabena Owusu-Agyemang** (2023). MSDP: multi-scheme privacy-preserving deep learning via differential privacy. *Personal and Ubiquitous Computing*. https://doi.org/10.1007/s00779-021-01545-0
15. Evans Aidoo, Xun Wang, Zhenguang Liu, Edwin Kwadwo Tenagyei, **Kwabena Owusu-Agyemang**, Seth Larweh Kodjiku, Victor Nonso Ejianya, Esther Stacy E. B. Aggrey (2022). Cofopose: Conditional 2D Pose Estimation with Transformers. *Sensors*. https://doi.org/10.3390/s22186821
16. **OA Kwabena** (2022). Fusion dilated CNN for encrypted Web traffic classification. *International Journal of Network Security*. https://www.airitilibrary.com/Article/Detail/18163548-202207-202206300001-202206300001-733-740
17. **K Owusu-Agyemang** (2021). Guaranteed distributed machine learning: Privacy-preserving empirical risk minimization. *Mathematical Biosciences and Engineering*. https://pdfs.semanticscholar.org/af3b/3d646dca594081b5c74507b27cc53c0c478e.pdf
18. **K Owusu-Agyemang** (2021). Insuring against the perils in distributed learning: privacy-preserving empirical risk minimization. *Mathematical Biosciences and Engineering*. https://www.academia.edu/download/105903239/mbe-18-04-151.pdf
19. Emmanuel Antwi-Boasiako, Shijie Zhou, Yongjian Liao, Qihe Liu, Yuyu Wang, **Kwabena Owusu-Agyemang** (2021). Privacy preservation in Distributed Deep Learning: A survey on Distributed Deep Learning, privacy preservation techniques used and interesting research directions. *Journal of Information Security and Applications*. https://doi.org/10.1016/j.jisa.2021.102949
20. **OA Kwabena** (2021). Robust Training for Injection Attacks Detection in Web-based Applications.

International Journal of Network Security. https://www.airitilibrary.com/Article/Detail/18163548-202111-202111020002-202111020002-1028-1036

21. **kwabena Owusu-Agyemang** (2021). S-PPOC: Multi-scheme Privacy-Preserving Outsourced Classification. *International Journal of Network Security*. https://www.airitilibrary.com/Article/Detail/18163548-202105-202105040001-202105040001-522-534
22. Edward Yellakuor Baagyere, Peter Awon-Natemi Agbedemnab, **Zhen Qin**, Mohammed Ibrahim Daabo, Zhiguang Qin (2020). A Multi-Layered Data Encryption and Decryption Scheme Based on Genetic Algorithm and Residual Numbers. *IEEE Access*. https://doi.org/10.1109/access.2020.2997838
23. **K Owusu-Agyemang** (2020). Multi-class triplet loss with gaussian noise for adversarial robustness. *IEEE Access*. https://ieeexplore.ieee.org/abstract/document/9197596/
24. **OA Kwabena** (2019). Mscryptonet: Multi-scheme privacy-preserving deep learning in cloud computing. *IEEe Access*. https://ieeexplore.ieee.org/abstract/document/8651459/
25. **K Owusu-Agyemang** (2015). An evaluation of the effectiveness of the MCA rural banks computerization and interconnectivity project implementation: a comparative case study of two rural banks in Ghana. *International Journal of Advanced Research in Management and Social Sciences*. https://indianjournals.com/article/ijarmss-4-3-012
26. Edward Yellakuor Baagyere, **Zhen Qin**, Hu Xiong, Zhiguang Qin (2015). Characterization of Complex Networks for Epidemics Modeling. *Wireless Personal Communications*. https://doi.org/10.1007/s11277-015-2569-x
27. **kwabena Owusu-Agyemang** (2015). Indian sub-continent: strenghening measures against security threats in the present scenario. *International Journal of Advanced Research in Management and Social Sciences*. https://indianjournals.com/article/ijarmss-4-3-001

Conference papers 1

1. Isaac Osei, Benjamin Appiah-Kubi, Bill Kissi Frimpong, James Ben Hayfron-Acquah, **Kwabena Owusu-Agyemang**, Samuel Ofori-Addo, Regina Esi Turkson, Cobbinah Bernard Mawuli (2023). Multimodal Brain Tumor Segmentation Using Transformer and UNET. *2023 20th International Computer Conference on Wavelet Active Media Technology and Information Processing (ICCWAMTIP)*. https://doi.org/10.1109/iccwamtip60502.2023.10387113