Kate Takyi

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RESEARCH

Interests: Computer Networks · Machine Learning · Computer Vision

Areas: Artificial Intelligence · Analytical Chemistry · Cognitive Neuroscience · Computer Networks and Communications · Computer Vision and Pattern Recognition · Developmental and Educational Psychology

RESEARCH SUMMARY

23	101	6	3	0.99	17%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 23 publications listed below, 2018–2026. Field-weighted impact is the mean over the 12 works scored for it; 1.00 is the world average for works of the same field, type and year. 2 of the 12 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Lecturer 2021–present
Computer Science, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

EDUCATION AND QUALIFICATIONS

PhD 2016–2020
Computer Applications, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

PUBLICATIONS

Journal articles 19

1. 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
2. Juliet Arthur, Rose-Mary Owusuaa Mensah Gyening, Emmanuel Ahene, Prince Dawson Tetteh, Betty Agyei Kponyo, Justice Agyemang Owusu, **Kate Takyi**, Jerry John Kponyo (2026). A systematic review of machine learning techniques for real-time speech and noise classification in hearing aids. *Disability and Rehabilitation Assistive Technology*. https://doi.org/10.1080/17483107.2026.2671834
3. Linus Tabari, **Kate Takyi**, Rose-Mary Owusuaa Mensah Gyening (2026). Attention-Based LSTM for Sign Language Recognition Leveraging Spatial-Temporal Keypoint. *Computing&AI Connect*. https://doi.org/10.69709/caic.2026.130891
4. L Tabari, **K Takyi**, RMOM Gyening (2026). Attention-Based LSTM for Sign Language Recognition Leveraging Spatiotemporal Keypoints. *Computing&AI Connect*. https://www.scifiniti.com/3104-4719/3/2026.0034
5. Rose-Mary Owusuaa Mensah Gyening, James Ben Hayfron-Acquah, Michael Asante, **Kate Takyi**, Peter

Appiahene (2026). Deep-fuzzy personalisation framework for robot-assisted learning for children with autism. *Indonesian Journal of Electrical Engineering and Computer Science*. https://doi.org/10.11591/ijeecs.v41.i1.pp320-330

6. Gadafi Iddrisu Balali, **K Takyi**, RMOM Gyening (2026). Enhancing Diabetes Mellitus Diagnosis and Management in Ghana through Supervised Learning: A Predictive Modeling Approach. *Journal of Health Informatics in Africa*. https://jhia-online.org/index.php/jhia/article/view/592
7. Niamatu Yussif, **Kate Takyi**, Rose-mary Owusuaa Mensah Gyening, Samuelson Israel Boadu-acheampong (2025). Advanced Mobile Money Fraud Detection Using CNN-BiLSTM and Optimized SGD with Momentum. *AJIT-e Academic Journal of Information Technology*. https://doi.org/10.5824/ajite.2025.03.002.x
8. **Kate Takyi**, Rose-Mary Owusuaa Mensah Gyening, Shester Msouobu Gueuwou, Marco Stanley Nyarko, Richard Adade, Reindorf Nartey Borkor, Samuelson Israel Boadu-Acheampong, Linus Tabari (2025). AfriSign: African sign languages machine translation. *Discover Artificial Intelligence*. https://doi.org/10.1007/s44163-025-00227-7
9. **K Takyi**, RMOM Gyening, MA Boateng (2025). Enhancing SQL injection detection with long short term memory networks in deep learning. *International Journal of Open Information Technologies*. https://cyberleninka.ru/article/n/enhancing-sql-injection-detection-with-long-short-term-memory-networks-in-deep-learning
10. 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
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. Eshun Michael, Gyening Mensah Rose-Mary Owusuaa, **Takyi Kate**, Appiahene Peter, Peasah Ofosuhene Kwame, Banning Amoako Linda (2024). Sentiment analysis and classification of Ghanaian football tweets from the 2022 FIFA World Cup. *Indonesian Journal of Electrical Engineering and Computer Science*. https://doi.org/10.11591/ijeecs.v34.i1.pp497-507
13. Lucy Afeafa Ry-Kottoh, Rose-Mary Owusuaa Mensah Gyening, Obed Appiah, **Kate Takyi**, Peter Appiahene (2023). Cocoa beans classification using enhanced image feature extraction techniques and a regularized Artificial Neural Network model. *Engineering Applications of Artificial Intelligence*. https://doi.org/10.1016/j.engappai.2023.106736
14. Isaac Aduhene Armah, James Ben Hayfron-Acquah, **Kate Takyi**, Rose-Mary Owusuaa Mensah Gyening, Michael Eshun (2023). The use of knapsack 0/1 in prioritizing software requirements and Markov chain to predict software success. *International Journal of Information Technology*. https://doi.org/10.1007/s41870-023-01476-4
15. **K. Takyi** (2020). A METHOD AND SYSTEM FOR IMPROVING WIRELESS SENSOR NETWORK USING FAULT MITIGATION TECHNOLOGY. *Au*.
16. **K Takyi** (2020). Real-time application clustering in wide area networks. *Computers & Electrical Engineering*. https://www.sciencedirect.com/science/article/pii/S0045790620305462
17. **K Takyi** (2019). A Semi-Supervised QoS-Aware Classification for Wide Area Networks with Limited Resources. *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*. https://www.researchgate.net/profile/Kate-Takyi/publication/335830588_A_Semi-Supervised_QoS-Aware_Classification_for_Wide_Area_Networks_with_Limited_Resources/links/5e8fb9b592851c2f52910dfa/A-Semi-Supervised-QoS-Aware-Classification-for-Wide-Area-Networks-with-Limited-Resources.pdf
18. **K Takyi** (2019). An Improved Classification Model for Wide Area Networks with Low Speed Links. *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*.

19. **K Takyi** (2018). Improving Academic Resource Capacity at African Universities Through the Development of an Integrated Africa Diaspora MOOCs Project. *A Vision for the Future*. https://www.iie.org/wp-content/uploads/2023/11/CADF-Online-Education-v3.pdf#page=4

Conference papers 3

1. Abdulai Abdul-Malik Dason, Rose-Mary Owusuaa Mensah Gyening, **Kate Takyi**, Linda Amoako Banning, Eldad Antwi-Bekoe, Michael Eshun (2024). Pneumonia Detection on Chest X-ray Using Deep Convolutional Neural Networks. https://doi.org/10.1109/icecet61485.2024.10698157
2. **K Takyi**, MS Nyarko, Richard Adade, RMOM Gyening (2023). Afrisign: Machine translation for african sign languages. *4th Workshop on African Natural Language Processing*. https://openreview.net/forum?id=EHldk3J2xk
3. Otuekong Ekpo, **Kate Takyi**, Rose-Mary Owusuaa Mensah Gyening (2022). LightGBM-RF: A Hybrid Model for Anomaly Detection in Smart Building. *Communications in computer and information science*. https://doi.org/10.1007/978-981-19-8445-7_3

Reports 1

1. **K Takyi** (2018). Clustering techniques for traffic classification: A comprehensive review. *2018 7th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions) (ICRITO)*. https://ieeexplore.ieee.org/abstract/document/8748772/