Francisca Adoma Acheampong

Faculty of Electrical and Computer Engineering
Kwame Nkrumah University of Science and Technology

ORCID 0000-0002-7213-5268 · Homepage webapps.knust.edu.gh/staff/dirsearch/profile/summary/fb34c7d09958.html · Google Scholar scholar.google.com/citations?user=tjkFrN4AAAAJ&hl=en · Profile knust.peerford.com/staff/15f4bd47-2e12-48f5-b3a6-42bbc4f39657

RESEARCH

Interests	Artificial Intelligence · Natural Language Processing · Sentiment Analysis · Emotion Detection
Areas	Artificial Intelligence · Computer Vision and Pattern Recognition · Experimental and Cognitive Psychology · Physiology · Analytical Chemistry · Biophysics

RESEARCH SUMMARY

19	1,149	8	7	6.90	36%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 19 publications listed below, 2018–2026. Field-weighted impact is the mean over the 14 works scored for it; 1.00 is the world average for works of the same field, type and year. 5 of the 14 papers scored for it are among the world's most cited tenth for their field, type and year.

PUBLICATIONS

Journal articles 17

1. **Francisca Adoma Acheampong**, Henry Nunoo-Mensah, Richard Dei-Asamoa, Faisal Ihunnang Nurideen, Evelyn Seyram Kakah (2026). A curated dataset for emotion-based analysis of students' experiences in higher education. *Discover Education*. https://doi.org/10.1007/s44217-026-02098-1
2. Amina Salifu, Henry Nunoo-Mensah, Eric Tutu Tchao, Albert Dede, **Francisca Adoma Acheampong**, Matthew Cobbinah, Julius Adinkrah, Andrew Selasi Agbemenu, Jerry John Kponyo (2026). CNN -Based Accent Similarity Detection Using Masked Spectrogram Reconstruction. *Engineering Reports*. https://doi.org/10.1002/eng2.70665
3. Matthew Cobbinah, Henry Nunoo-Mensah, **Francisca Adoma Acheampong**, Isaac Acquah, Eric Tutu Tchao, Andrew Selasi Agbemenu, Julius Adinkrah, Jerry John Kponyo, Emmanuel Abaidoo, Ike Asamoah-Ansah, Obed Kojo Otoo (2026). DeCGAN: a diversity-enhanced CycleGAN for unpaired image-to-image translation. *Scientific Reports*. https://doi.org/10.1038/s41598-026-55042-6
4. **Francisca Adoma Acheampong**, KOBO Agyekum, Charles Roland Haruna (2026). Efficient D2D resource allocation with temporal fusion transformer. *Journal of Communications and Networks*. https://ieeexplore.ieee.org/abstract/document/11659816/
5. Amina Salifu, Henry Nunoo Mensah, Eric Tutu Tchao, Ali Musah Ibrahim, **Francisca Adoma Acheampong**, Jerry John Kponyo, Andrew Selasi Agbemenu (2025). A systematic review of accent classification techniques and datasets for inclusive speech recognition. *International Journal of Data Science and Analytics*. https://doi.org/10.1007/s41060-025-00954-1
6. Matthew Cobbinah, Henry Nunoo-Mensah, Prince Ebenezer Adjei, **Francisca Adoma Acheampong**, Isaac Acquah, Eric Tutu Tchao, Andrew Selasi Agbemenu, Emmanuel Abaidoo, Ike Asamoah-Ansah, Obed Kojo Otoo, Amina Salifu, Albert Dede, Julius Adinkrah, Jerry John Kponyo (2025). Attn-DeCGAN: A Diversity-Enhanced CycleGAN With Attention for High-Fidelity Medical Image Translation. *Engineering Reports*. https://doi.org/10.1002/eng2.70320
7. Albert Dede, Henry Nunoo-Mensah, Eric Tutu Tchao, Andrew Selasi Agbemenu, Prince Ebenezer Adjei, **Francisca Adoma Acheampong**, Jerry John Kponyo (2025). Deep learning for efficient high-resolution

image processing: A systematic review. *Intelligent Systems with Applications*. https://doi.org/10.1016/j.iswa.2025.200505

8. Matthew Cobbinah, Henry Nunoo-Mensah, Prince Ebenezer Adjei, **Francisca Adoma Acheampong**, Isaac Acquah, Eric Tutu Tchao, Andrew Selasi Agbemenu, Jerry John Kponyo, Emmanuel Abaidoo (2025). Diversity in Stable GANs: A Systematic Review of Mode Collapse Mitigation Strategies. *Engineering Reports*. https://doi.org/10.1002/eng2.70209
9. Amina Salifu, Henry Nunoo Mensah, Eric Tutu Tchao, **Francisca Adoma Acheampong**, Andrew Selasi Agbemenu, Jerry John Kponyo (2025). Enhancing speech recognition through diverse shared features accent classification. *International Journal of Speech Technology*. https://doi.org/10.1007/s10772-025-10198-w
10. Albert Dede, Henry Nunoo-Mensah, Emmanuel Kofi Akowuah, Kwame Osei Boateng, Prince Ebenezer Adjei, **Francisca Adoma Acheampong**, Isaac Acquah, Jerry John Kponyo (2025). Wavelet-Based Feature Extraction for Efficient High-Resolution Image Classification. *Engineering Reports*. https://doi.org/10.1002/eng2.70027
11. Albert Dede, Henry Nunoo-Mensah, Emmanuel Kofi Akowuah, Kwame Osei Boateng, Iddrisu Danlard, Prince Ebenezer Adjei, **Francisca Adoma Acheampong**, Jerry John Kponyo (2025). Wavelet-Enhanced Deformable Convolutional Network for Breast Cancer Classification in High-Resolution Histopathology Images. *Applied Research*. https://doi.org/10.1002/appl.70021
12. H. Nunoo-Mensah, S. Kuseh, J. Yankey, **F. Acheampong** (2022). A Survey of Deep Learning Techniques for Maize Leaf Disease Detection: Trends from 2016 to 2021 and Future Perspectives. *DOAJ (DOAJ: Directory of Open Access Journals)*. https://doi.org/10.22061/jecei.2022.8602.531
13. **Francisca Adoma Acheampong**, Henry Nunoo-Mensah, Wenyu Chen (2021). Transformer models for text-based emotion detection: a review of BERT-based approaches. *Artificial Intelligence Review*. https://doi.org/10.1007/s10462-021-09958-2
14. **Francisca Adoma Acheampong**, NM Henry (2020). Comparative Analyses of Bert. *Roberta*, *Distilbert*, *and Xlnet*. https://scholar.google.com/scholar?cluster=9797566749617959290&hl=en&oi=scholarr
15. **FA Acheampong**, H Nunoo-Mensah (2020). Front Cover Image, Volume 2, Number 7, July 2020. *Engineering Reports*. https://scholar.google.com/scholar?cluster=17807570355263240203&hl=en&oi=scholarr
16. **Francisca Adoma Acheampong**, Chen Wenyu, Henry Nunoo-Mensah (2020). Text-based emotion detection: Advances, challenges, and opportunities. *Engineering Reports*. https://doi.org/10.1002/eng2.12189
17. **FA Acheampong** (2018). Big data, machine learning and the blockchain technology: an overview. *International Journal of Computer Application*. https://scholar.google.com/scholar?cluster=14214057991332304796&hl=en&oi=scholarr

Conference papers 2

1. Amina Salifu, Henry Nunoo-Mensah, Eric Tutu Tchao, Albert Dede, Lukman Kunveng, **Francisca Adoma Acheampong**, Matthew Cobbinah, Julius Adinkrah, Shafic Issahaku, Andrew Selasi Agbemenu, Jerry John Kponyo (2026). Improving Speech Recognition for Ghanaian Accents Using Transformer-Based Accent Classification. *Lecture notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*. https://doi.org/10.1007/978-3-032-33957-7_1
2. **F. A. Acheampong**, H. Nunoo-Mensah, Wenyu Chen (2021). Recognizing Emotions from Texts Using an Ensemble of Transformer-Based Language Models. *2021 18th International Computer Conference on Wavelet Active Media Technology and Information Processing (ICCWAMTIP)*. https://doi.org/10.1109/iccwamtip53232.2021.9674102