

John Kwao Dawson (PhD)



EDUCATION

September 2019 – November 2024

Ph.D | Computer Science

Kwame Nkrumah University of Science and Technology, Kumasi

June 2012 – June 2017

Master of Philosophy | Information Technology

Kwame Nkrumah University of Science and Technology, Kumasi

June, 2006 - July 2010

Bachelor of Education Degree | Information Technology
(Second Class Upper)

University of Education, Kumasi Campus, Kumasi

June, 1998- June 2002

Teacher's Certificate "A" | Education

Akrokerri College of Education, Akrokerri

June 2000 – December 2000

Certificate, PC Repair | Microsoft Suite

De Mac Computer and Engineering Services, Kumasi

WORK EXPERIENCE

January 2025-Date

Lecturer | **University of Energy and Natural Resources** | **Sunyani, Ghana**

Part-Time Lecturer

Courses Taught

- Cloud Computing
- Computer Ethics
- Research Methods

May 2024-Till Date

Lecturer | **Kwame Nkrumah University of Science and Technology** | **Kumasi, Ghana**

Part-Time Lecturer

Course Taught

- Cryptography

June 2023-Date

Consultant | **First Generation Construction LTD**

- Ensuring security of company's Data (Data Backups, Access Controls)
- Project Management
- Documentations

September 2020 – Till Date

Lecturer | **Sunyani Technical University** | **Sunyani Ghana**

- Created effective oral presentations, emphasizing key points and objectives.
- Attended departmental and faculty seminars which has aided in improving my knowledge and networking confidence.
- Collaborated with fellow lecturers to design course content and teaching policies.
- Department Examinations Officer
- Taught various computer science courses including;
 - Web Technologies
 - Cloud Computing

Date of Birth: 25/08/1979

Kumasi, Ghana

C/O Sunyani Technical

University

P.O. Box 206, Sunyani

CONTACT

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kwaodawson@stu.edu.gh

SUMMARY

Articulate teaching professional with extensive academic experience and focus on positively contributing to department success. Proven skills in curriculum and course development. Dedicated to building morale and creativity among students. Studious and passionate worker with extensive knowledge of teaching in computer science courses. Committed to mentoring students to enhance participation and increase overall success. Outgoing and friendly with fantastic attention to detail.

SKILLS

- Academic Publication
- Student Motivation and Engagement
- Curriculum Development
- Verbal and Written Communication
- Online Teaching
- Microsoft Suite

- C++
- Cryptography

October 2019 – August 2020

Lecturer | Valley View University | Kumasi, Ghana

Part-Time Staff

Course Taught

- Management Information Systems

July 2019 - August 2020

Lecturer | Christian Service University College | Kumasi, Ghana

Part-Time Staff

- Utilized diverse teaching methods, and presentations during class activities to deliver the curriculum.
- Facilitated various computer science courses including;
 - Cloud Computing
 - Computer Literacy
 - C++ Programming
 - System Analysis and Design

July 2019 - August 2020

Lecturer | Christ Apostolic University | Kumasi, Ghana

Part-Time Staff

Course thought

- Distributed Computing

August 2018 – August 2020

Lecturer | Institute of Education University of Cape Coast, Kibi Campus

Part-Time Staff

Courses thought included:

- Microsoft Suite

September 2011 – August 2020

Tutor | Kwadaso College of Agriculture | Kumasi, Ghana

- Provided private instruction to individuals and small groups of students to improve academic performance.
- Participated in training and development sessions to improve tutoring practices and learn new tutoring techniques.
- Utilized demonstration teaching techniques to diagnose student needs and monitor progress.
- Utilized positive reinforcement techniques to encourage and motivate students.
- Head of Department –Information and Communication Technology
- Maintaining and Repairing the Institution's Website
- Welfare Chairman

September 2010 – August 2011

Teacher | Bechem Presbyterian Senior High School,

Ghana Education Service | Bechem, Ghana

- Managed students' behavior in the classroom by establishing and enforcing rules and procedures.
- Prepared and presented lesson plans in academic subjects using traditional and modern teaching techniques.
- Enforced discipline on campus and during off-campus school trips following the code of conduct and student handbook.
- Participated in workshops, training, and conferences to improve my educational skills.

ACHIEVEMENTS

Certificate of Honor – Students' Representative Council President

SPEECHES

- Local Assembly Meeting Held On 24th November 2008. University Of Education, Winneba- Kumasi Campus.
- Speech Delivered On The 3rd Anniversary Celebration Of Information Technology Students Association On 17th May 2008. University Of Education, Winneba- Kumasi Campus.

SEMINARS AND WORKSHOPS PARTICIPATED

- Center for National Distance Learning and Open Schooling **(CENDLOS)**-National Consultative Workshop To Review Draft EDTECH Strategy For Education- Tamale-2025
- Commission for Technical and Vocational Education and Training **(CTVET)** Workshop To Develop Tools And Equipment Lists For Competency-Based Training (CBT) Programmes Developed Under The Ghana Jobs And Skills Projects In 2024-Winneba -2025
- Commission for Technical and Vocational Education and Training **(CTVET)** Workshop to Develop Curriculum for Competency Based Training- Winneba-2025
- A presentation on Proposal writing for Final Year Computer Science and Information and Communication Technology Students-Sunyani Technical University-2022
- Research Methods and Grantsmanship Seminar- Sunyani Technical University-2022
- Biotechnology in Agriculture (Internet Of Things) China- 2019
- Capacity Building in Project Management. Kwadaso College of Agriculture- 2015.
- One-World One--Society Summit. United Kingdom-November 2009

COMMITTEE

- Developing Master of Technology In Information and Communication Technology (Computer Science Department-Sunyani Technical University)-2025
- Re-Accreditation of Bachelor of Technology Computer Science-2024(Chairman)
- Re-Accreditation of Bachelor of Technology Information Technology-2024(Member)
- Re-Accreditation of Higher National Diploma Information and Communication Technology-2024(Member)

PROFESSIONAL ASSOCIATION

September 2019 – Till Date

Internet Society Ghana Chapter

PUBLICATIONS

1. Twum, F., **Dawson, J.K.**, Ayawli, B.B.K., and Buabeng, S.A." SmartGuard: An Improved Leaky Bucket Algorithm-Based Secure and Scalable Congestion Control Framework for the Edge-Cloud Continuum(**ACCEPTED**) Journal of Information Systems Engineering and Management

2. Ayawli, B. B. K., **Dawson, J. K.**, Badu, E., Ayawli, I. E. B., & Lamusah, D. (2025). Comparative analysis of popular mobile robot roadmap path-planning methods. *Robotica*, 1-24.
3. Frimpong T., Hayfron Acquah J.B., Missah Y.M., **Dawson, J.K.**, Ayawli, B.B.K., Baah, P. and Sam, S.A. Securing cloud data using secret key 4 optimization algorithm (SK4OA) with a non-linearity run time trend. *PLoS One*. 2024 Apr 16; 19 (4):e0301760. doi: 10.1371/journal.pone.0301760
4. **Dawson, J.K.**, Frimpong, T., Hayfron Acquah, J.B., and Missah, Y.M. "Ensuring privacy and confidentiality of cloud data: A comparative analysis of diverse cryptographic solutions based on run time trend," *PLOS ONE*, vol. 18, no. 9, p. e0290831, Sep. 2023, doi: <https://doi.org/10.1371/journal.pone.0290831>.
5. **Dawson, J.K.**, Frimpong, T., Hayfron-Acquah, J.B. and Missah, M., 2023. Reconnoitering Security Algorithms Performance In The Cloud: Systematic Literature Review Based On The Prisma Archetype. *Journal of Theoretical and Applied Information Technology*, 101(6).
6. **Dawson, J.K.**, Twum, F., Hayfron-Acquah, J.B., and Missah, Y.M. (2023), "PRISMA Archetype-Based Systematic Literature Review of Security Algorithms in the Cloud," *Security and Communication Networks*, vol. 2023, pp. 1–17, Jul. 2023, doi: <https://doi.org/10.1155/2023/9210803>.
7. **Dawson, J.K.**, Twum, F., Hayfron-Acquah, J.B., and Missah, Y.M. (2023), "A Comparative Study of Linear and Non-Linear Cryptographic Algorithms in Cloud Computing," *Social Science Research Network*, Jan. 2023, doi: <https://doi.org/10.2139/ssrn.4465265>.
8. **Dawson, J.K.**, Twum, F., Hayfron-Acquah, J.B., Missah, Y.M. and Ayawli, B.B.K. (2022) 'An enhanced RSA algorithm using Gaussian interpolation formula', *Int. J. Computer Aided Engineering and Technology*, Vol. 16, No. 4, pp.534–552.
9. **Dawson, J.K.**, Twum, F., Hayfron-Acquah, J.B., and Missah, Y.M. (2022) 'Ensuring privacy and confidentiality of data on the cloud using an enhanced homomorphism scheme,' *Informatica*, vol. 46, no. 8, Nov. 2022, doi: 10.31449/inf.v46i8.4305.
10. **Dawson, J.K.**, Twum, F., Hayfron-Acquah, J.B., and Missah, Y.M. (2022) 'Ensuring Confidentiality and Privacy of Cloud Data using non-Deterministic Cryptographic Scheme', *PLOS ONE*, doi.org/10.1371/journal.pone.0290831
11. **Dawson, J.K.**, Ayawli, B.B.K., Akyeramfo-Sam, Baah, P., Agyemang, P., (2022) 'Ensuring Cloud Data Security Using The Soldier Ant Algorithm', *Journal of Advances in Information Technology*, doi: 10.12720/jait.14.1.130-137
12. **Dawson, J.K.**, Twum, F., Hayfron-Acquah, J.B., and Missah, Y.M. (2024) 'Cryptographic Solutions for Data Security in Cloud Computing: A Run Time Trend-based Comparison of NCS, ERSA, and EHS', *Journal of Cyber Security and Mobility*.
13. **Dawson, J.K.** & Yeboah, T. (2020). Determinants of Communication Service Tax In Ghana. *International Journal of Social Science and Humanities Research*, 8(1), 55-61.

14. **Dawson, J.K. & Osei.M** (2020). Actualizing a Multi-integrated Identity Management Mechanism for Controlling Access in Automobiles. International Journal of Engineering Research and Reviews, 8(1), 6-10.
15. ASSESSING THE IMPACT OF INFORMATION TECHNOLOGY IN INFLUENCING ACADEMIC PERFORMANCE IN TERTIARY EDUCATION IN GHANA
16. ENHANCING KEYBOARDING SKILLS THROUGH MULTIMEDIA, DEMONSTRATION, AND PARTICIPATORY APPROACH.

NEWS PAPER PUBLICATIONS

1. **Dawson, J. K.** (2022). Re-registration of SIM; the mistrust between NIA and telcos on database. Myjoyonline.com
2. **Dawson, J.K.** (2020). Use the IRIS as a biometric modality for the new voter register, the lecturer suggests. BRIGHTWEB.COM
3. **Dawson, J.K** (2019). Engage the TELCOS in Education on the Referendum lecturer suggests. BRIGHTWEB.COM

SERVICE TO COMMUNITY

2024 – To Date

Sunyani Technical University
Examination Officer (Computer Science Department)

2022- To Date

Sunyani Technical University
FAST Board Representative for Computer Science Department

2022- 2024

Sunyani Technical University
Project Committee Chairman (Computer Science Department)

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| 2022 | Journal of Advances in Information Technology
Reviewer |
| 2022 | KSII Transactions on Internet and Information Systems
Reviewer |
| 2022 | River Publishers
Reviewer |

July 2009 – December 2009

CROPS RESEARCH INSTITUTE (BIOMETRICS)
Attachment Training-Computer Technician

November 2016 – November 2016

Electoral Commission
Bosomtwe District
Collation Technician / Key Trainer

REFEREES

Professor Frimpong Twum
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Computer Science Department
PMB KNUST
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Professor James Benjamin Hayfron Acquah
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Professor Yaw Marfo Missah
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