

Adams Azameti

Tema Community 5, Ghana Digital Address: GT-089-5511 Phone: +233 (20) 822 2843
Email: adamsblessed36@gmail.com / adams.azameti@upsamail.edu.gh

1. PROFILE SUMMARY

My research is at the intersection of AI in education, policy, and the societal impacts of artificial intelligence. It spans various domains, with a specific emphasis on advanced technologies to enhance educational experiences and understand the broader influence of AI on society. I specialize in Adaptive Learning Systems, designing AI-driven educational platforms that dynamically adapt to individual learner profiles, and optimizing instructional content and methodologies. Also, I work on Intelligent Tutoring Systems, deploying AI to deliver personalized, real-time tutoring tailored to individual learning styles and progress. I also contribute to the field through Automated Assessment Tools, creating AI-based tools for automated grading and assessment using machine learning to improve efficiency in educational evaluation processes. My expertise extends to Learning Analytics, applying AI methodologies to analyze extensive educational datasets for meaningful insights to inform instructional strategies and enhance learning outcomes. I am actively involved in Policy and Regulation research, focusing on ethical and responsible AI deployment, addressing societal implications, and ensuring compliance with ethical standards. Furthermore, my work explores Ethical AI issues, to investigate bias, transparency, accountability, and ethical frameworks guiding AI applications.

2. EDUCATION

- **MPhil at the University of Ghana, Computer Science Department, Legon, Accra [2015–2017]:** Masters of Philosophy with a distinction in the Research Seminar.
Co-advised by Professor Katsriku Ferdinand and Dr. Jamal-Deen Abdulai.
- **B.Sc. at Kwame Nkrumah University of Science & Technology, Computer Science Dept. [2008–2011]:** Bachelor of Science in Computer Science with a distinction in Teaching.
Advised by Mr. Ernest Abrokwa.
- **PGCE at the University of Education, Winneba, Department of Education, Kumasi Campus [2005-2006]:** Postgraduate Certificate in Education (PGCE) with a distinction in Teaching.
Advised by Dr. Banahene Emmanuel.
- **HND at Kumasi Technical University, Mechanical Engineering Department, Kumasi [1997-2000]:** Higher National Diploma (HND) in Mechanical Engineering with a distinction in project work.
Advised by Dr. Anthony Agyei-Agyeman.

3. PROJECT EXPERIENCE

- Developed an Adaptive Math Learning App (2022-2023) utilizing machine learning to customize exercises based on individual student proficiency, resulting in a 20% improvement in math performance [2022-2023].
- Implemented image Recognition for Medical Diagnosis using a convolutional neural network, achieving an 85% accuracy rate in early detection of specific medical conditions [2019-2020].
- Developed a Fraud Detection model for Financial Transactions that successfully identified and prevented 90% of fraudulent transactions, reducing financial losses [2017-2018].
- Implemented Time Series Forecasting for Energy Consumption to optimize energy resource planning, improving allocation efficiency by 15% [2014-2015].

4. TEACHING EXPERIENCE: UNIVERSITY OF PROFESSIONAL STUDIES

- **Introduction to Machine Learning** **Fall Semester 2022 [14 weeks]**

Responsibilities: Conducted weekly discussion sessions, held office hours to assist students with coursework and projects, assessed assignments and examinations, contributed to curriculum development, and provided feedback on students' machine-learning projects.

- **Data Science Fundamentals** **Spring Semester 2021 [15 weeks]**

Responsibilities: Served as a Guest Lecturer, delivering specialized lectures on data preprocessing, exploratory data analysis, and introductory machine learning concepts. Provided guidance on practical applications of data science through hands-on workshops and supervised student projects.

- **Artificial Intelligence Ethics and Policy** **Winter Term 2020 [10 weeks]**

Responsibilities: Taught topics related to ethical considerations in AI development, policy implications, and societal impact. Designed and evaluated student assessments, facilitated class discussions, and guided students in research projects on AI ethics.

5. TEACHING EXPERIENCE: ACADEMIC CITY UNIVERSITY COLLEGE

- **Computer Vision and Image Processing** **Summer Session 2019 [8 weeks]**

Responsibilities: Served as a Lab Instructor, conducting practical sessions on computer vision techniques, guiding students in implementing image processing algorithms, and providing assistance with their final projects. Also, graded lab assignments and exams.

- **Intro to Programming with Python** **Fall Semester 2018 [12 weeks]**

Responsibilities: Contributed to the development of course materials, conducted weekly programming labs, offered one-on-one assistance during office hours, evaluated student programming assignments, administered quizzes, and participated in curriculum review meetings.

- **Intro to Artificial Intelligence** **Spring Semester 2018 [15 weeks]**

Responsibilities: Functioned as a Teaching Assistant, providing support in lecture preparation, grading assignments and exams, and conducting review sessions. Assisted

students in understanding foundational AI concepts and algorithms and guided them through practical exercises.

6. GRADUATE TEACHING ASSISTANTSHIP: UNIVERSITY OF GHANA

▪ Advanced Topics in Machine Learning Winter Term 2017 [10 weeks]

Responsibilities: Served as a Lab Instructor, I was responsible for designing the course curriculum, delivering advanced machine learning lectures, facilitating student-led seminars on research papers, providing mentorship for student research projects, and assessing their final presentations.

▪ Robotics and Autonomous Systems Fall Semester 2017 [12 weeks]

Responsibilities: Served as a Teaching Consultant, I contributed to the development of course materials related to robotics and autonomous systems. I conducted hands-on labs, assisted in student project development, and provided guidance on practical applications in robotics.

▪ Database Management Systems Summer Session 2016 [8 weeks]

Responsibilities: As a Lab Supervisor, I oversaw hands-on sessions on database concepts and SQL programming. I also conducted review sessions, assisted students in understanding complex database queries, and evaluated their practical assignments and database projects.

7. PUBLICATIONS

- A Model-Driven Optical Clinic Management Systems: Systematic Software Engineering Approach (2022). Authors: Azameti, A. A.K., Koi-Akrofi, G., Agbodo, N., Amegadzie, J. K.

Journal: EAI Endorsed Transactions on Pervasive Health and Technology.
<https://eudl.eu/doi/10.4108/eai.16-3-2022.173610>.

- The Effect of Congestion Control Model on Congested Traffic Flow in Vehicular Ad Hoc Networks (VANETs) (2018).

Authors: Azameti, A. A.K., Katsriku, F., Chong, P.H.J., Abdulai, J.D.

Journal: EAI Endorsed Transactions on Mobile Communications and Applications Technology. <http://dx.doi.org/10.4108/eai.22-3-2018.154371>

8. PAPERS SUBMITTED

- (ID: 238648813) Mitigating Intermittent Connectivity Problems in Vehicle-to-Vehicle Communication (V2VC): A Sparse Network Computational Model (SNCM) Approach (2023). <https://rp.tandfonline.com/dashboard>.

Authors: Azameti, A. A.K., Katsriku, F., Owusu, E., Abdulai, J.D.

Journal: Journal of Intelligent Transportation Systems.

- (ID: 3896) A Contemporary Approach to Designing and Implementing Electronic Voting Systems (EVS) (2023).

<https://publications.eai.eu/index.php/sc/submissions>

Authors: Azameti, A. A.K., Quist, S.C., Koi-Akrofi, G., Nwachuku, B.C.

- (JIN-23-0788) Systematic Literature Review: A Novel Framework for Evaluating Electronic Voting Systems Artifacts (2023). <https://mc.manuscriptcentral.com/jin>

Authors: Azameti, A. A.K, Koi-Akrofi, G., Quist, S.C., Dayie, R.

Journal: Journal of Information Technology

9. PAPERS YET TO BE SUBMITTED

- The Case of Electronic Transaction Levy in Ghana: A Comprehensive Probe into Pre and Post-Implementation Effects in Low-Income Nations.
- Comparative Evaluation of Machine Learning Techniques in Various Domains
- Exploring Emotion Recognition in the Context of Artificial Intelligence: A Comprehensive Review and Proposals for Future Research.
- Examining the Consequences of the Growing Disparity Between the Political Elite and Ordinary Citizens in Ghana: Public Opinions on the Implementation of the Electronic Transactions Levy (E-Levy).
- Assessing Ghanaian Perspectives on Governance in Relation to National Progress Since the Establishment of the Fourth Republic: Is Democracy a Boon or a Bane for Citizens?

10. CONFERENCES ATTENDED

- **Conference Name:** Coastal Ocean and Environment Summer School at the University of Ghana.

Location: University of Ghana, Accra.

Date: August 2023

Contribution: Attended workshops on Physical Oceanography where we took data from the Gulf of Guinea for scientific modeling using Python.

- **Conference Name:** Accra Training College (Centre for Teaching Support): Participated in a workshop on “Enhancing the Professional Development of the Higher Education Teaching Staff”

Location: University of Professional Studies, Accra Ghana.

Date: June 2021

Contribution: Presented a research paper on predictive forecasting for human resource development in Education.

- **Conference Name:** A Training Workshop organized by Researcher Academy on Campus-Elsevier at the University of Ghana:
<https://researcheracademy.elsevier.com/profile>

Location: University of Ghana

Date: December 2020

Contribution: Attended workshops on how to conduct scientific research in a panel discussion on the future research output.

- **Conference Name:** Coastal Ocean and Environment Summer School.

Location: Regional Maritime University, Ghana.

Date: August 2019

Contribution: Presented a paper on the application of AI in Oceanography using Machine Learning Algorithms.

- **Conference Name:** University of Cape Coast (Centre for Teaching Support)
Location: University of Cape Coast, Ghana.

Date: February 2019

Contribution: Participated in a poster presentation session on “Enhancing the Professional Development of the Higher Education Teaching Staff”

- **Conference Name:** Coastal Ocean and Environment Summer School.

Location: Regional Maritime University, Ghana.

Date: August 2017

Contribution: Presented a paper on Intelligent Transportation Systems.

- **Conference Name:** The DEMIS Project Founded by DAAD (Project ID: 57142907)-International Conference on Sustainability and Environmental Management

Location: University of Ghana, Legon.

Date: February 2017

Contribution: Presented a paper on the awareness of human activities and their implications for our lives.

- **Conference Name:** GhiE -Resilient and Sustainable Infrastructure - the Role of Civilian and Military Engineering.

Location: University of Ghana, Legon.

Date: February 2016

Contribution: Participated in a poster presentation session

- **Conference Name:** IEEE Green Comm Virtual Conference.

Location: Online.

Date: July 2016

Contribution: Participated and presented a paper

11. PROGRAMMING EXPERIENCE

- **Python:** Skilled in Python for developing machine learning models, data analysis, and scripting.
- **R:** Experienced in statistical analysis and data visualization using R.
- **TensorFlow:** Proficient in using TensorFlow for constructing and training deep learning models.
- **Scikit-Learn:** Adept in Scikit-Learn for implementing a variety of machine learning algorithms.
- **MATLAB:** Capable of utilizing a range of tools and functions for tasks such as matrix manipulation, algorithm implementation, simulation, and the creation of graphical user interfaces (GUIs).
- **SmartPLS (Partial Least Squares Structural Equation Modeling):** Competent in a statistical method that combines factor analysis and multiple regression analysis.

- **STATA:** Proficient in a statistical software package for data analysis, statistical modeling, and graphics.

12. TECHNICAL EXPERIENCE

- **Deep Learning:** Proficient in deep neural networks, convolutional neural networks (CNNs), and recurrent neural networks (RNNs).
- **Natural Language Processing (NLP):** Knowledgeable about NLP techniques, including sentiment analysis, named entity recognition, and text summarization.
- **Reinforcement Learning:** Experienced in developing reinforcement learning models for autonomous systems.
- **Big Data Technologies:** Familiar with distributed computing frameworks like Apache Spark for managing large-scale machine learning tasks.
- **Computer Vision:** Skilled in computer vision tasks such as image classification, object detection, and image segmentation.
- **Data Preprocessing and Feature Engineering:** Able to prepare and transform data for machine learning tasks, with various feature engineering techniques.

13. HONORS AND AWARDS

- **2015-2017:** Recipient of the Ghana Education Trust Fund (GetFund) for Excellent Academic Achievements.
- **2009-2011:** Awarded the Nape Foundation Scholarship in the United States of America for Academic Achievements.

14. WAEC EXAMINERS' EXPERIENCE

WEST AFRICA EXAMINATION COUNCIL (WAEC) - ACCRA, GHANA

- **Consultant & ICT Assistant Chief Examiner** **July 2012-Present**

Responsibilities

- ✓ Moderation of Examination Questions
- ✓ Preparation of a marking scheme
- ✓ Vetting of Team Leaders' (TL) Examination Scripts
- ✓ Lead Examiner during the Coordination of Examiners before marking.

- **Mathematics-Assistant Examiner (West Africa Senior High Secondary Certificate Examination (WASSCE) – Tema)** **June 2011-Present**

Responsibilities

- ✓ Marking of Examination Scripts
- ✓ Attendance at Coordination meetings of Examiners before marking.

- **Physics-Assistant Examiner (West Africa Senior High Secondary Certificate Examination (WASSCE) - Accra Branch)** **Sept 2009 - Aug 2010**

Responsibilities

- ✓ Marked Examination Scripts
- ✓ Attended Coordination meetings of Examiners before marking.

- **Mathematics-Team Leader (West Africa Senior High Secondary Certificate Examination (WASSCE) - Ho Branch)** **Aug 2004 – Dec 2008**

Responsibilities

- ✓ Moderated Examination Questions
- ✓ Prepared a marking scheme
- ✓ Vetted Assistant Examiner's (A.E) Examination Scripts.

15. EXTRA CURRICULUM ACTIVITIES

- **Student Government:** Held the position of President of the Computer Science Student Association.
- **Robotics Club:** Co-founded and led the university's robotics club, overseeing the organization of competitions and workshops.
- **Technical Writing Club:** Contributed articles to the university's technical writing club and served as the editor for the club's publication.
- **Peer Mentorship Program:** Volunteered as a mentor for incoming students, offering academic and career guidance.
- **Interdisciplinary Research Group:** Collaborated with students from diverse disciplines in an interdisciplinary research group exploring the intersection of technology and society.
- **Public Speaking Club:** Participated in and achieved awards at public speaking competitions, honing communication skills.
- **Open-Source Contribution:** Contributed to open-source machine learning projects on GitHub, engaging with a global community.
- **Fitness and Wellness Club:** Coordinated fitness and wellness events on campus, advocating for a healthy lifestyle.
- **Internship Peer Support Group:** Founded a peer support group for interns, facilitating the sharing of experiences and insights during summer internships.
- **Youth Mentorship Initiative:** Engaged in a youth mentorship initiative for a duration of 2 years.

16. HOBBIES

- **Photography:** Enthusiastic about capturing moments and experimenting with various photography styles.
- **Hiking and Nature Exploration:** Finds joy in exploring scenic trails and connecting with nature.
- **Cooking:** Takes pleasure in experimenting with diverse cuisines and creating new recipes.
- **Reading Science Fiction:** Devotes time to reading science fiction novels, exploring futuristic concepts and ideas.

17. REFERENCES

1. **Associate Prof. Ferdinand Apeitu Katsriku**, Department of Computer Science
University of Ghana, Legon
Mobile: +233 54 6796771
Email: fkatsriku@ug.edu.gh

2. **Professor. Peter Chong**, Department of Electrical and Electronic Engineering
Auckland University of Technology (AUT)

Tel: +64 9 921 9999 ext: 6132

Email: peter.chong@aut.ac.nz

Position: Associate Head of School (Research)

3. **Dr. Godfred Koi-Akrofi**, Head of the IT Department

University of Professional Studies, UPSA

Mobile: +233 20 295 1976

Email: godfred.akrofi@upsamail.edu.gh

4. **Associate Prof. Emmanuel Asamoah**, Dean of Information Technology and
Communication Studies (FITCS).

University of Professional Studies, UPSA

Mobile: +233 26 214 9431

Email: emmanuel.asamoah@upsamail.edu.gh

5. **Dr. Joseph Ansong**, Department of Mathematics

University of Ghana, Legon

Mobile: +233 20 497 0962

Email: jkansong@ug.edu.gh

6. **Dr. Ebenezer Owusu**, Department of Computer Science

University of Ghana, Legon

Mobile: +233 24 436 2054

Email: ebeowusu@ug.edu.gh