

Christabel Acquaye

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INTERESTS

Machine Learning

Natural Language Processing

Deep Learning

WORK/RESEARCH EXPERIENCE

Emerging Leaders in Technology and Engineering(ELiTE), Emerging Labs

Remote

AI Team Lead

July 2019 – Aug 2022

- Organized and delegated tasks culminating in the development of the ELiTE Virtual Counsellor project.
- Independently developed NLP models and systems used in efficient app conversations while automating other processes.
- Empowered instructors by designing curriculum on AI used in tutoring students during ELiTE Camps.

Karaagro AI

Accra, Ghana

Research Assistant

Aug. 2021 – May 2022

- Collaborated and co authored the KaraAgroAI Cocoa and Maize Datasets, published on Havard Dataverse.
- Validated and evaluated pretrained models on the KaraagroAI Datasets to verify accuracy in downstream tasks specifically tasks related to Ghana.

Kwame Nkrumah University of Science and Technology

Kumasi, Ghana

Software Developer

Jan 2020 – Aug 2020

- Independently implemented the Genetic Algorithms used in the Exam Time Table Scheduler.

Research Assistant

Sept 2019 – June 2020

- Researched, experimented, and tested different toll solutions for Ghana.
- Co authored the GhanaToll paper published in the International Journal of Computer Applications.

Electricity Company of Ghana, ECG

Accra, Ghana

Lead Intern

July 2018 – Aug 2018

- Coordinated and delegated tasks assigned to interns.

Computer Engineering Intern

June 2018 – Aug 2018

- Ensured smooth running of the company's operations by troubleshooting and resolving hardware related issues.
- Revamped IT software systems installing tailor-made ECG software and Operating Systems.

Ghana-India Kofi Annan Centre of Excellence in ICT(AITI)

Accra, Ghana

Computer Engineering Intern

June 2017 – Aug 2017

- Represented the Institute at the 2017, Data conference exhibition
- Co developed the Linux Infrared Air conditioner controller (LIRC) using raspberry pi project.

TEACHING EXPERIENCE

University of Maryland

College Park, USA

Teaching Assistant

Aug 2022 – Present

- CMSC216 - Introduction to Computer Systems
- CMSC 320 - Introduction to Data Science
- CMSC 131/CMSC 132 - Object Oriented Programming I and II

ELiTE Education

New York, USA

Volunteer Tutor

July 2016 – Present

- Tutored college and high school students in Hardware Programming and Machine Learning.

Academic City University College

Accra, Ghana

Faculty Assistant

May. 2021 – Aug 2022

- TA for Emerging Technologies, Matlab for Algebra and Python Programming.
- Developed course syllabus, quizzes and exams for Python Programming Class.

Kwame Nkrumah University of Science and Technology

Kumasi, Ghana
Sept. 2019 – June 2020

Teaching Assistant

- TA for Computer Architecture, Semiconductor Devices, Engineering Technology (Introduction to Hardware Programming using Arduino), Basic Electronics, Embedded Systems, and Digital Signal Processing.
- Empowered students by developing lab activity manuals for students to use during lab activities.
- Motivated and preserved student's interest in studies by organizing online tutorials during the COVID-19 period.

TECHNICAL COMPETENCES

Programming Languages, Frameworks, and Databases: Pytorch, Tensorflow, Keras, Embedded C, Java, Apex, Dialog Flow, SQL (Postgres)

Development and Design Tools: Visual Studio Code, Code Composer Studio, Atmel Studio, Arduino, Eagle, Octave, SPSS, Proteus, Fusion, Adobe XD, Figma, GIT

Operating Systems: Ubuntu, Windows, Linux Mint, Debian, MacOS

Languages: English(Proficient), Ga(Fluent), French(Beginner)

EDUCATION

University of Maryland

College Park, MD, USA

PhD in Computer Science

Aug 2022 – June 2027

Kwame Nkrumah University of Science and Technology

Kumasi, Ghana

Bsc in Computer Engineering; First Class Honors

Sep 2015 - July 2019

HONORS AND AWARDS

University of Maryland

- CS Summer Research Fellowship *June. 2023*
- Dean's Fellowship for outstanding academic achievement. *Aug. 2022*

Kwame Nkrumah University of Science and Technology

- Best Graduating Female Computer Engineering Student. *Mar. 2020*
- Best Female Computer Engineering Student *May. 2018*
- Jerome Jackson Scholarship for highly motivated students in STEM *Aug. 2018*

SELECTED RESEARCH AND PROJECTS

B Komme, **C Acquaye**, and T A Abeka. GhanaToll: Barrier-Free RFID Toll Collection and Management System for Ghana. International Journal of Computer Applications 176(27):22-29, June 2020.

Cultural Differences Analysis in Common Sense Data and Models

2022 – Present

University of Maryland

- Tools and Datasets: Pytorch, Commonsense Dataset, Social IQA Dataset, Physical Interactions Dataset.

Cost Efficient Exploration for Reinforcement Learning

2023

University of Maryland

- Framework: Pytorch

Evaluating Complex Visual Question Answering

2022

University of Maryland

- Tools and Datasets: Pytorch, COCO, DAQUAR, AI2D, Visual Genome Datasets

Final Project: Multi-Fish Species Classifier

2021

Runmila AI Institute and AI Commons

- Tools and languages: Python, Tensorflow

Brain Tumor Detector

2021

Applied SVM in CNN to train model.

- Tools and languages: Python, Tensorflow

CERTIFICATIONS

Runmila AI Institute and AI Commons <i>Certificate in Machine Learning and Deep Learning</i>	Accra, Ghana 2021
Kumasi Hive Incubator <i>Certificate in Internet of Things</i>	Kumasi, Ghana 2018
Ghana-India Kofi Annan Centre of Excellence in ICT <i>Certificate in Database Management and Administration</i>	Accra, Ghana 2017
Ghana-India Kofi Annan Centre of Excellence in ICT <i>Certificate in Java Programming</i>	Accra, Ghana 2016

COMMUNITY/VOLUNTEER WORKS

Mentor <i>Emerging Leaders in Technology and Engineering, ELiTE</i>	2016 - Present Accra, Ghana
<ul style="list-style-type: none">• Instigating interest in STEM by tutoring and mentoring students in python programming, electronics, and ML.	
Scholarship Application Reviewer for the Grace Hopper Celebration <i>Anita B. Org</i>	2020 – 2022 Online
<ul style="list-style-type: none">• Reviewed scholarship applications by different students across the world to attend the GHC 2021 Conference.• Reviewed scholarship applications by different female faculty across the world to attend the GHC 2020 and 2022 Conference.	
Conference volunteer <i>27th SMART-iSTEAMS-IEEE Multidisciplinary Conference, Academic City</i>	2021 Accra, Ghana
<ul style="list-style-type: none">• Collected information of participants prior to conference in order to make relevant provisions to accommodate COVID-19 protocols.• Served as information desk representative during conference.	
Mentor, General Secretary and Tutor <i>Faculty of Electrical and Computer Engineering Students, ACES</i>	2017- 2020 Kumasi, Ghana
<ul style="list-style-type: none">• Empowered students by providing tuition and direction in C and python programming, electronics, and navigating engineering.• Coordinated meetings with executives and organised workshops and networking events for students with potential employers.• Organized and documented the department's electronics club meetings proceedings, submitted reports and letters within and outside the institution.	
Academic Mentor and Music Head <i>Royal House Students and Associates, KNUST,</i>	2018 - 2020 Kumasi, Ghana
<ul style="list-style-type: none">• Organized academic workshops and provided counselling and guidance for students.• Managed and provided music training for musical performances during church services and events in and out of campus.	
Video team volunteer <i>Debian Project's developer conference, DebConf</i>	2019 Curitiba, Brazil
<ul style="list-style-type: none">• Served as the video director controlling videos recorded and transmitted through the live video stream.	
Director for Children's Ministry <i>Dominion Outreach Church</i>	2014-2019 Accra, Ghana
<ul style="list-style-type: none">• Organised and coordinated weekly Bible lessons.• Developed lesson plans and organised training for other Sunday school teachers to equip them with the relevant skills necessary for teaching.• Developed and organised plays and skits during church events.	
Ambassador for General Electric during the Predix Challenge <i>Kwame Nkrumah University of Science and Technology</i>	2017 Accra, Ghana
<ul style="list-style-type: none">• Coordinated conversations between GE, the contestants and KNUST Students• Organised and mobilised students to support contestants from KNUST.	