FREDERICK SENYA

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# EDUCATION

## The University of Vermont, Burlington, VT

## Ph.D. in Mathematical Science January 2022– Present

## Kwame Nkrumah University of Science & Technology, Kumasi, Ghana

## Bachelor of Science in Mathematics August 2011 – June 2015

* *Master of Philosophy in Scientific Computing August 2016 – June 2019*

# RESEARCH INTEREST

* Differential Equations, Numerical Analysis, Biomathematical Modeling, Data Science, Machine Learning

# TEACHING EXPERIENCE

**Graduate Teaching Assistant, Department of Math & Stats, University of Vermont, USA**

* MATH 010: Pre-Calculus *Current Semester*
* MATH 019: Fundamentals of Calculus I  *Fall 2022 Semester*
* MATH 020: Fundamentals of Calculus II *Spring 2022 Semester*

**Lecturer, Cape Coast Technical University, Ghana** *July 2021 – Oct 2021*

* CLT 101: Computer Literacy
* URC 105: Digital Literacy

# OTHER RELEVANT EXPERIENCE

**Howe Library, The University of Vermont,** USA *Feb 2021 – June 2021*

## Part-Time Staff

* Supervised the Circulating desk. This involved providing customer service and directional assistance as well as working with student employees and other staff.
* Occasional troubleshooting with equipment such as printers and scanners
* Helped maintained the physical collections in the library (Shelving books and other materials)
* Helped supervised the building and informed users of policies related to noise, safety protocols and other matters
* Assisting with opening and/or closing the building

**Ghana Statistical Service, Central Region,** Ghana *Feb 2021 – June 2021*

## Contract Staff

* Served as Regional trainer for Ghana’s 2021 Population and Housing Census, conducting effective training of over 40 field officers.
* Planning and supervision of field practice
* Reviewing household data collected and providing daily reports and feedback to the DDQMT team
* Create awareness of the 2021 Population and Housing Census through community engagement
* Managing logistics

**University of Ghana, Greater Accra Region, Ghana** *September 2019 – May 2020*

## Research Assistant

* Research in mathematical biology under the tutelage of US Fulbright Scholar Prof. Daniel Bentil
* Served as Computational Mathematics Teaching Assistant at the Department

**University of Education, Winneba, Department of Math Education, Winneba**, Ghana *September 2015 – August 2016*

## National Service Person

* Served as Teaching Assistant in the Mathematics Department
* Assist with logistics of Departmental Seminars, Meetings, and Examinations
* Provide a full range of office support services to the Departmental Office
* Collaborated with a team of two other staff to track office supplies and related office needs

**GCB Bank Limited, Cape** Coast, Ghana *July 2014 – August 2014*

## Intern

* Manage ATM Transactions
* Processing of Customer’s ATM application forms and expired ATM cards for renewal
* Perform “Call Over” after every close of transactions

**SICLIFE Insurance Company Limited, Cape Coast,** Ghana  *June 2014 – July 2014*

## Intern

* Worked with a team of four other interns to ensure proper filing and jacketing of insurance claim forms
* Data entry of insurance claim forms in an online system
* Auditing sales records of ‘SIKAPLAN’ marketing representatives.
* Assist with other duties as needed.

# SKILLS

* Programming Languages: Python, R
* Other Software: Microsoft Office (Word, PowerPoint, Excel), LaTeX, Beamer, RStudio, MATLAB, Mathematica.
* Research, Teaching, Mathematical Modeling & Simulations, Data Analysis & Visualization

**ARTICLES AND PRESENTATIONS**

* A Concise Mathematical Model for Schistosomiasis Infection – A presentation to graduate student, Department of Mathematics, University of Ghana. (2019)
* A Bioenergetics growth model with water Quality variable for predicting Tilapia weight in a caged Pond (Master’s Thesis) 2019
* Modeling Traffic Flow-Density Using Partial Differential Equation*,* Undergraduate project 2015

**AWARDS & CERTIFICATIONS**

* January 22 - Present: Graduate Teaching Assistantship / Department of Mathematics Summer funding
* August 08, 2020: Intro to Time Series Analysis in R Certificate – (Coursera Project Network)
* August 03, 2020: R Programming Certificate – (Johns Hopkins University authorized course offered through Coursera)
* July 31, 2020: Crash Course on Python – (Google-authorized course offered through Coursera)
* October 2016 – June 2019: National Institute for Mathematical Sciences Graduate Scholarship, Ghana.