

# Irene Safoa

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## PROFESSIONAL SUMMARY

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A diligent, capable, resolute, and ambitious B.Sc. Mathematics first class graduate enthusiastic about things related to academia and improving the lives of people with in-depth knowledge in mathematics because mathematics is indeed the basis of all creation. A confident presenter at conferences, teacher in classrooms, able to break down complex information to audiences in all levels. I believe in leadership, team building, fast learning, human-centred nature, and persistence because they have provided me with exceptional innovative skills. Earlier academic and work experience have enabled my development in communication skills and appreciation for all cultures.

## Career Objective

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To leverage my skills and knowledge as a researcher who aims to find lasting solutions to Ghana's major problems which include disease outbreaks and flooding and integrate my passion for teaching as a lecturer at a research university.

## Research Interests

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- Partial Differential Equations
- Mathematical Biology
- Machine Learning
- Fluid Dynamics

## Education

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**Kwame Nkrumah University of Science and Technology**

*Degree: Bachelor of Science in Mathematics (First class)*

**Sep 2019 - Sep 2023**

**Kumasi, Ghana**

**St. Martins Senior High School**

*Option: West African Senior School Certificate Examination (WASSCE) General Science*

*Electives: Elective Mathematics, Biology, Chemistry, Physics*

**Sep 2015 - June 2018**

**Nsawam, Ghana**

**Mioga School Complex**

*Option: Basic Education Certificate Examination (BECE)*

**Sep 2012 - June 2015**

**Nsawam, Ghana**

## Relevant Coursework

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|--------------------|----------------------|----------------------------------|------------------------------|
| • Calculus         | • Numerical Analysis | • Linear Algebra                 | • Scientific Computing       |
| • Real Analysis    | • Complex Analysis   | • Partial Differential Equations | • Probability and Statistics |
| • Abstract Algebra | • Topology           | • Optimization                   | • Dynamical Systems          |

## Research Experience

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**Final Year Thesis, Department of Mathematics, KNUST**

**May 2023 - Sep 2023**

*Machine Learning Methods with Application in Pharmacokinetics*

- Formulated compartmental model using systems of differential equations to analyze the movement of drug compounds in an organism.
- Incorporated three machine learning algorithms (Random Forest, Support Vector Machine and Linear Regression model) to predict ADME (Absorption, Distribution, Metabolism, and Excretion ) parameters.
- Predicted new compounds using results from the machine learning algorithms.
- Random Forest Model performed the best due to the robust nature of the algorithm.

## Volunteering/Leadership Experience

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### E-Learning International Conference, KNUST

July, 2024

#### Usher

- Greeted guests in a friendly and welcoming manner, assisted with ticket scanning, and directed them to their seats.
- Maintained cleanliness and orderliness of seating areas.
- Provided information about the event, venue layout, facilities and amenities to guests.

### Kwame Nkrumah University of Science and Technology, KNUST

Jan 2023 - Sep 2023

#### Undergraduate Mentor

- Mentored and guided a group of 5 undergraduate students in Mathematics.
- Organized and facilitated group study sessions and workshops on relevant courses to enhance learning and understanding.
- Provided academic guidance, including course selection and study strategies, resulting in improvement of mentee's overall grades.

### Kwame Nkrumah University of Science and Technology, KNUST

Jan 2023 - Sep 2023

#### Class Representative for Women's Commissioner's Office

- Ensured that, the right and needs of students especially ladies in my class are protected and respected.
- Helped to organize skills fair such as bead making and soap making to enhance their hands-on-skills which makes them more efficient outside school.
- Assisted in conducting surveys and collected feedback to assess program effectiveness and recommended improvements.

## Professional Experience

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### National Service Personnel

Nov 2023 - Present

#### Department of Mathematics, Kwame Nkrumah University of Science and Technology

Kumasi, Ghana

- Conducting one-on-one or group tutorial sessions to help students understand and excel in mathematics topics.
- Building strong rapport with students and also monitoring students' progress through conducting assignments, quizzes, and tests via the Moodle management system provided by the school and providing constructive feedback to help them improve.
- Helping my supervisor to plan learning activities and grading of students.

### Mathematics Teacher

Sep 2018 - Aug 2019

#### Mioga School Complex

- Developed curriculum materials by creating lesson plans and instructional materials tailored to the needs of the students
- Explained mathematical concepts in easy and understandable terms to the students.
- Used real-life examples to teach geometrical concepts.
- Developed students interest in mathematics.

### District Clerk

Sep 2018 - Aug 2019

#### The Church of Pentecost - Nsawam Area

- Managed records for easy accessibility.
- Prepared income and expenditure cash books.
- Filed relevant documents for future use.
- Recorded and updated databases.

## Membership Affiliations

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- Women in Science, WISE KNUST
- The Mathematics Community, TMC KNUST

## Conferences

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- E-Learning International Conference (KNUST), 2024
- CV writing skill seminar–KNUST Career Service Centre, 2023.
- Entrepreneurship and career guidance summit–Leadership Empire, 2022.
- Career Summit–KNUST, College of Science, 2021.

## Skills

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### Languages

English Native Proficiency

Twi Native Proficiency

### Technical

Python, C, Machine Learning Libraries, Latex/Overleaf, Microsoft Office Application

### Soft Skills

Self-motivated, analytical, and able to work under pressure

Good verbal and written communication skills

Good interpersonal relationship

Team player with good time management skills

Taking instructions from superiors

## References

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Dr. Reindorf Nartey Borkor

Lecturer-KNUST

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