

# Prince Asumadu

📍 Kumasi - Ghana

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## Research Interest

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- Scientific Computing
- Machine Learning
- Numerical Analysis
- High-Performance Computing
- Optimization
- Graph Theory

## Education

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- MPhil National Institute of Mathematical Sciences (NIMS-KNUST) GHANA,** Jan 2025 – Present  
Scientific Computing and Industrial Modelling
- **Coursework:** Scientific Computing, Advanced Linear Algebra, Machine Learning, HPC ...
  - **Expected completion:** July 2026
- BSc Kwame Nkrumah University of Science and Technology (KNUST) GHANA,** Sept 2019 – Nov 2023  
Mathematics
- GPA: 3.73/4.0
  - **Coursework:** Linear Algebra, Differential Equations, Functional Analysis, Numerical Analysis, ...

## Awards and Scholarships

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- SCIM Scholarship** National Institute of Mathematical Sciences 2025 - 2026

## Research Experience

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- Optimal Task Allocation using the Primal Simplex Method,** Jan 2024 – May 2024  
*National Institute of Mathematical Sciences, NIMS*
- Built an LP model to allocate tasks to employees
  - Modified primal simplex method to solve model.
  - Performed comparative accuracy analysis and benchmarking on algorithms.
- Dynamic Evacuation Plan Model for a Building Complex,** Apr 2023 – Aug 2023  
*Department of Mathematics, KNUST*  
*Supervisor: Prof. Peter Amoako-Yirenkyi*
- Created network graph for case study building complex.
  - Built a dynamic shortest-path model based on network graph.
  - Ran Simulations for different hazardous scenarios.
- National Institute of Mathematical Sciences,** Kumasi  
Research Assistant Jan 2024 – Aug 2024
- Performed statistical surveying and code testing for ongoing research at the institute.
  - Conducted individual research project on employee scheduling.

## Teaching and Work Experience

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**Ghana Computational Biosciences Network,**  
Python Tutor

Kumasi  
October 2025 – November  
2025

- Coordinated a two-month python boot camp for members of the network.

**Adepts Ghana,**  
Part-time Database Developer

Kumasi  
2024 – Present

- Design and build databases for projects as part of the database team.
- Maintain databases for live projects.

**Department of Mathematics (KNUST),**  
Teaching Assistant

Kumasi  
Jan 2024 – Dec 2024

- Tutored students in differential equations and numerical analysis courses.
- Instructed and graded lab sections on openmp and MPI with C.

**Ghana Ports and Harbor Authority,**  
IT Department, Intern

Tema  
Oct 2022 – Dec 2022

- Fixed software and hardware issues on staff computers.
- Monitored and set up LAN connections, Wi-Fi, and fibre optics.

**Manhyia Hospital,**  
Research Department, Intern

Kumasi  
Oct 2021 – Nov 2021

- Performed daily statistical analysis on out-patient department.
- Conducted individual project on staff satisfaction at the hospital.

**Kumasi Academy,**  
Substitute Teacher

Kumasi  
Aug 2020

- Instructed students on elective mathematics in online sessions.

## Computational Skills

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**Programming:**

- Python (Scikit-learn, PyTorch, Numpy, Pandas, Altair, Seaborn)
- C/C++
- R
- SQL (PostgreSQL)

**HPC/Scripting:**

- MPI
- OpenMP
- CUDA
- $\text{\LaTeX}$
- HTML / CSS
- Shell scripting (Bash)

**Others:**

- Git / Github
- SPSS

## Training and Conferences

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- High Performance Computing for Sustainable Development April 2023
- Deep Learning Indaba September 2023
- DS-Change Workshop: Uniting Academia & Industry December 2023
- Indaba X: Ghana Data Science Summit October 2024