

# Jesse Amoako Asimeng

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4036 Education Building, Tygerberg campus, Stellenbosch University, Cape Town, South Africa

## ● WORK EXPERIENCE

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09/2018 – 06/2021

### RESEARCH ASSISTANT – KUMASI CENTRE FOR COLLABORATIVE RESEARCH IN TROPICAL MEDICINE

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- Utilised molecular techniques like DNA extraction, conventional and real-time PCR to identify microbes associated with meningococcal and influenza infections
- Contributed to developing standard operating procedures (SOPs) for the "Febrile Illness in Sub-Saharan Africa" study
- Reviewed scientific literature for my research group
- Collected data through administration of questionnaires

Kumasi, Ghana

05/2017 – 06/2017

### SENIOR HIGH SCHOOL TEACHER INTERN – KOFORIDUA SENIOR HIGH/TECHNICAL SCHOOL

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- Taught Biology to a class of about 70 students
- Graded examinations
- Set up and instructed practical laboratory sessions

Koforidua, Ghana

05/2016 – 06/2016

### MEDICAL LABORATORY TECHNICIAN INTERN – NEWLANDS MEDICAL CENTRE

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- Experience in phlebotomy
- Assisted in performing biochemistry tests (hormonal tests, kidney and liver function tests)
- Assisted in performing serological tests (Widal test, Blood grouping)
- Assisted in testing for malaria using microscopy

Koforidua, Ghana

06/2013 – 09/2013

### MARKET RESEARCH INTERVIEWER – TNS/RMS INTERNATIONAL

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- Conducted market research through the administration of questionnaires

Accra, Ghana

## ● EDUCATION AND TRAINING

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03/2021 – CURRENT – Cape Town, South Africa

**MSc. MOLECULAR BIOLOGY** – Division of Molecular Biology and Human Genetics, Stellenbosch University

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Expected graduation: March 2023

**Thesis:** Pipeline and Tools for the Analysis of Multiplexed ELISA Data

Relevant course work:

- Molecular Biology
- Gene expression, modification and genetic engineering
- Immunology
- Biophysics
- Microbiology

Degree classification: Second Class Honours (Upper Division) | [knust.edu.gh](http://knust.edu.gh)

## ● **TRAINING**

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28/04/2022

### **SASBi Molecular Modelling Workshop, Stellenbosch, South Africa**

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Workshop topics:

- Introduction to Pymol utility
- Database interrogation
- Proteome modelling
- Analysis of mutations with structural annotations deposited in the COSMIC CGC 3D database
- Sars-CoV-2 proteome analysis

10/2021 – 11/2021

### **Introduction to Data Science and Computational Thinking, School for Data Science and Computational Thinking, Stellenbosch University**

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Completed modules:

- Data structures
- Data manipulation
- Summary statistics
- Data visualisation
- Hypothesis testing
- Linear modelling & introduction to machine learning

07/2021 – 09/2021

### **Centre for High Performance Computing (CHPC) winter school, South Africa (Online)**

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Completed modules:

- CHPC hardware architecture
- Linux command line
- Job scheduling – with the portable batch system scheduler (PBS)
- Advance job scripts
- Scaling and performance and fixing errors

08/2019 – 11/2019

### **Introduction to Bioinformatics Training, Human Hereditary and Health in Africa Bioinformatics Network (H3ABioNet)**

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Completed modules:

- Genomics
- Linux
- Sequence Alignment Theory and Application
- Multiple Sequence Alignment
- Molecular Evolution and Phylogenetic
- Databases and Resources

## ● HONOURS AND AWARDS

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07/2021

### **DAAD In-Region Scholarship – German Academic Exchange Service**

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For MSc studies in Molecular Biology (Bioinformatics) at Stellenbosch University from July 2021 to June 2023

04/2021

### **Travel award – Stellenbosch University**

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Awarded to attend the "*BIO2022: Bioscience, Big Data & the 4th Industrial Revolution*" conference held in Stellenbosch, South Africa from 24th - 27th April 2022.

10/2021

### **Educational bursary – Stellenbosch University, School for Data Science and Computational Thinking**

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Bursary awarded to attend the "*Introduction to Data Science and Computational Thinking*" online course organised by the School for Data Science, Stellenbosch University from October - November 2021.

## ● SKILLS

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### **Computational and analytical skills**

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- Proficiency in the R programming language
- Developing web applications for interactive data analyses with R Shiny
- R package development
- Building Singularity containers for reproducible analyses
- Developing computational pipelines with the Nextflow workflow management system
- Experience with using Linux command line & Bash scripting
- Experience with using the high performance computing (HPC) cluster
- Experience with using GIT, a version control system for collaborative work

### **Laboratory skills**

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- DNA extraction
- Gel electrophoresis
- Polymerase chain reaction (PCR)
- Culturing microorganisms (Bacteria)

### **Leadership skills**

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- Took a position as an organiser in the campus Christian association from April 2016 - March 2018 (where I organised members and coordinated meeting activities). Through this position, I developed leadership and managerial skills
- Volunteered in planting trees in and around the Kumasi metropolis, Ghana (2016 - 2018) with the aim of improving environmental sustainability
- Volunteered in clean-up campaigns in the Kumasi metropolis, Ghana (2016 - 2018) where I participated in tidying up various communities and sensitised community members on the importance of a clean environment

### **Other skills**

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- Proficiency in Microsoft office suite (Excel, Word, Powerpoint)
- Fast typing skills (45 words per minute - Mavis Beacon teaches typing)

- Good communication skills from my experience in interviewing study participants
- Data collection skills through the administration of questionnaire
- Administrative skills (recording meeting minutes, printing, scanning and photocopying)

## ● **RELEVANT ONLINE COURSES & CODEATHONS**

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12/2021

### **CHPC & NVIDIA's Artificial Intelligence for Science Hackathon**

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Lecture topics:

- Introduction to GPU computing
- Introduction to artificial intelligence
- Convolutional neural network primer and Keras

06/2021

### **African society for bioinformatics and computational biology's (ASCB) Omics Codeathon**

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Project: Developing a tutorial for sars-cov-2 amplicon sequence analysis using Galaxy

05/2020

### **Bacterial Genomes: From DNA to Protein Function using Bioinformatics, Wellcome Genome Campus Advanced Courses and Conferences**

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Completed modules:

- Bioinformatics tool, DNA and Protein Sequences
- Retrieving DNA and Protein Sequences from repositories
- Databases for Protein Annotation
- Inferring function from sequence

03/2020

### **Bacterial Genomes: Disease Outbreaks and Antimicrobial resistance, Wellcome Genome Campus Advanced Courses and Conferences**

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Completed Modules:

- Genome Sequencing Technology
- Mechanisms of Transmission of Resistance
- Genomic Epidemiology – Tracking the Spread of Bacterial Pathogens
- Antimicrobial Resistance

## ● **NETWORKS AND MEMBERSHIPS**

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09/2021 – CURRENT

### **South African Society for Bioinformatics**

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South Africa

Student membership

## ● **PUBLICATIONS**

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### **SARS-CoV-2 Amplicon Sequence Analysis Tutorial**

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<https://zenodo.org/record/4944064#.YihvuRuxWJA> – 2021

van Heusden, Peter, Mudibo, Evans, Bwanya, Brian, & Asimeng, Jesse A. (2021). SARS-CoV-2 Amplicon Sequence Analysis Tutorial [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.4899860>

## ● LANGUAGE SKILLS

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Mother tongue(s): **TWI - LOCAL GHANAIAN DIALECT**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH LANGUAGE</b>	C2	C2	C2	C2	C2

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## ● CONFERENCES AND SEMINARS

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04/2022 – Stellenbosch, South Africa

**BIO2022: Bioscience, Big Data & the 4th Industrial Revolution Conference**

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Poster presentation

Presentation title: Pipeline and Tools for the Analysis of Multiplexed ELISA Data

02/2022 – Stellenbosch University, South Africa

**Division of Molecular Biology and Human Genetics Research Retreat**

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Flash oral presentation

Presentation title: Pipeline and Tools for the Analysis of Multiplexed ELISA Data

09/2021 – Stellenbosch University, South Africa

**Annual Academic Day, Faculty of Medicine and Health Science**

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ePoster presentation

Presentation title: Pipeline and Tools for the Analysis of Multiplexed ELISA Data

13/05/2022 – Stellenbosch University, South Africa

**Division of Molecular Biology and Human Genetics Seminar**

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Oral presentation on the progress of my MSc

Presentation title: Pipeline and Tools for the Analysis of Multiplexed ELISA Data

04/2022 – Stellenbosch, South Africa

**South African Society for Bioinformatics & South African Genetics Society Students' Symposium**

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Oral presentation

Presentation title: Pipeline and Tools for the Analysis of Multiplexed ELISA Data