

Nyabwari Brian Bosire

Molecular Biologist | Biotechnologist | Bioinformatician

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📍 Eldoret, Kenya

🌐 <https://github.com/Itsbosire>

PROFESSIONAL SUMMARY

Versatile, results – driven and detail-oriented Biotechnologist , with proven hands on experience in Molecular Biology, Biotechnology and Bioinformatics. Strong foundation in genomic techniques and research coordination.

WORK EXPERIENCE

UF Genoforge Virtual Internship

Remote

Virtual Research Intern

June 2025 – Present

- Performed in Silico Docking of Natural and Synthetic Inhibitors for Metastasis-Related Proteins in Brain Tumors.
- Selected metastasis-related proteins (MMP9, EGFR, CXCR4, CD44) and retrieved 3D structures from RCSB PDB.
- Built ligand library from PubChem; prepared proteins/ligands using PyMOL, AutoDockTools, Open Babel.
- Performed molecular docking with AutoDock Vina; analyzed binding affinities and interactions.
- Visualized complexes in PyMOL/Discovery Studio and conducted ADMET profiling via SwissADME, pkCSM.
- Compiled results into figures, tables, and interaction maps for reporting.

HackBio

Remote

Genomic Epidemiology Intern

September – October 2024

- Carried out literature reviews on the global effects of AMR, quantified the effects, to guide in development of mitigation strategies.
- Designed bash scripts commands for Bioinformatics softwares installation reducing time lag by 10%.
- Developed a cholera epidemiology surveillance dashboard using R.
- Developed a NGS variant calling pipeline using bash to automate variant calling analysis of cholera sequences.

Kenya Agricultural and Livestock Research Organization(KALRO)

Nakuru, Kenya

Molecular Biology Intern

May – July 2024

- Assisted in plant pathology diagnostics, applied advanced techniques to detect and manage diseases, reducing fungal infections rate by 15%.
- Extracted DNA from fungal isolates of *Fusarium oxysporum* , did gel electrophoresis, and prepared PCR products for sequencing.
- Analyzed genetic markers associated with disease resistance in wheat increasing production of new resistant wheat varieties by 10%.
- Performed Genome assembly, gene prediction, functional annotation and Phylogenetics analysis of various *Fusarium oxysporum* fungal isolates, increasing understanding of it's virulence and efforts to come up with new resistant banana varieties.

EDUCATION

University of Eldoret

Bachelor of Science in Biotechnology and Biosafety.

Final Year Project : https://github.com/Itsbosire/Phylo_Genomics

SKILLS

- **Biotechnology** : Nucleic acid extraction and quantification, Gel electrophoresis, Polymerase Chain Reaction, Tissue culture and spectrophotometry.
- **Bioinformatics** : Genomics, Phylogenetics, Variant Calling, Genome Assembly, Proteomics, Molecular docking, drug discovery ,Biomarker discovery and Epidemiology analysis.

Soft Skills

- Team player
- Attention to detail
- Leadership
- Public speaking

REFEREES

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