TAYLOR K. PAISIE

Bioinformatics Engineer

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Atlanta, Georgia

SUMMARY

Detail-oriented bioinformatics engineer with a strong background in Python, R, and data visualization. Extensive experience in bioinformatics, statistical analysis, and data-driven storytelling. Passionate about transforming complex datasets into actionable insights using interactive dashboards, machine learning models, and advanced analytics techniques. Proven expertise in building data pipelines, automating workflows, and leveraging visualization tools to support research and decision-making.

EDUCATION

University of Cape Town
PhD in Bioinformatics
2024 – Present

University of Florida
MS in Genetics and Genomics
2015 – 2021

Florida State University
B.Sc. in Biological Science
2010 – 2013

SKILLS

- Programming & Data Analysis: Python (Pandas, NumPy, Matplotlib, Seaborn, Plotly), R (ggplot2, Shiny, Tidyverse)
- Data Visualization & Reporting: R, Dash, Matplotlib, Seaborn
- Data Wrangling & Automation: SQL, Excel, Jupyter Notebook, Nextflow
- Machine Learning & Statistical Modeling: Scikit-learn, TensorFlow, Bayesian Analysis, Predictive Modeling
- Cloud & Big Data: HPC, AWS, Azure, Google Cloud
- Version Control & Collaboration: Git, GitHub

PROJECTS & PUBLICATIONS

- Dynamic Genomic Data Dashboard – Built an interactive Dash app to visualize bacterial assembly and single nucleotide polymorphisms workflow metrics.
- Predictive Modeling for Disease Surveillance – Used Python & Scikit-learn to build automated workflows.
- Numerous publications in bioinformatics, epidemiology, and genomic data analysis (see full list in CV).

PROFESSIONAL EXPERIENCE

Bioinformatics Engineer, ORISE Fellow

Centers for Disease Control | September 2023 – Present

- Developed automated data visualization dashboards in Python (Plotly, Dash, Matplotlib) to analyze bacterial genomics trends.
- Built Dockerized data processing pipelines for scalable and reproducible workflows.
- Applied machine learning models to predict disease outbreaks from genomic datasets.

Bioinformatics Engineer

Biotia, Inc. | 2022 - 2023

- Designed interactive visualizations for metagenomic analysis using R Shiny and ggplot2.
- Conducted analyses and processing and structured genomic data for analysis in SQL and Pandas.
- Created real-time dashboards in Tableau to monitor COVID-DX trends.

Bioinformatics Scientist

University of Florida | 2022- 2022

- Developed automated Python scripts for analyzing SARS-CoV-2 genomic sequences.
- Built and maintained data visualization pipelines using Seaborn and Matplotlib.
- Conducted statistical modeling for public health research.

Graduate Research Assistant

University of Florida | 2016- 2021

- Conducted phylodynamic and evolutionary modeling using Python and R.
- Built custom visualizations to explore bacterial phylogenetic data.
- Created data dashboards for real-time tracking of Vibrio cholerae outbreaks.