

Paschal Ugwu
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Summary

Innovative data enthusiast with a robust background in biochemistry, bioinformatics, and machine learning. Proficient in data analysis, software engineering, and machine learning. Adept at transforming complex data into actionable insights and developing predictive models for data-driven decision-making. Strong analytical and communication skills with a proven track record in leading interdisciplinary teams and executing high-impact projects.

Education

Michael Okpara University of Agriculture, Umudike

Bachelor of Science - BSc, Biochemistry (First-Class Honours)

Jan 2016 - Jun 2020

- **Research Focus:** Comprehensive analysis of edible oils to assess peroxidative status using statistical and biochemical methods.

Professional Development & Certifications

ALX Africa

Software Engineering and Data Science Learner

May 2023 - Present

- **Backend Development:** Led the development of 'Ambrosial' using Flask and SQLAlchemy.
- **Agricultural Insights:** Automated farming processes in fictitious 'Maji Ndogo' using data science and machine learning techniques.
- **ML Models:** Implemented Decision Tree and Random Forest Regression models to predict population growth and agricultural yield.
- **Full-Stack Development:** Created an AirBnB clone with Python and Flask, enhancing RESTful API development skills.
- **DevOps & System Engineering:** Managed MySQL databases, deployed with Docker, and gained expertise in system engineering and web infrastructure.
- **Data Visualization:** Used Power BI to analyze water accessibility, gender composition, and crime data, informing infrastructure planning and policy-making.
- **Google Sheets Analysis:** Analyzed global water access data, revealing income and rural-urban disparities, and informing targeted public health interventions.

Udacity

Machine Learning Nanodegree

May 2023 - Aug 2024

- **AI Models:** Developed AI models using PyTorch and TensorFlow for image classification and predictive analysis tasks.
- **AutoGluon for Bike Sharing Prediction:** Used AutoGluon to predict bike-sharing demand, optimizing distribution and availability.
- **Optical Character Recognition:** Built a character recognition system with 97.49% accuracy using PyTorch and the MNIST dataset, demonstrating neural network expertise.

Skills

- **Programming Languages:** Proficient in Python, Java, R, C, Node.js
- **Data & Machine Learning Tools:** Scikit-learn, TensorFlow, PyTorch, AutoGluon, Excel, Power BI, SQL, AWS Analytics
- **Web Development:** Flask, RESTful API development, full-stack development
- **Version Control & Scripting:** Git, BASH
- **Systems Engineering:** Systems Engineering, MySQL databases, Docker deployment
- **Mathematics & Statistics:** Linear algebra, probability theory, statistical analysis, regression modeling
- **Machine Learning:** Predictive models, NLP, Computer Vision

Experience

HackBerry Summer Internship, University of Massachusetts Lowell

Research Intern

May 2023 - Aug 2023

- **Genomic Analysis:** Directed parallel computing workflows for stickleback fish populations' SNV analysis.
- **Computational Pipelines:** Engineered pipelines with BWA, Samtools, and BCFtools for efficient data processing.

Helix Biogen Institute

Research Intern

Jan 2023 - Jul 2023

- **Bioinformatics Algorithms:** Implemented advanced algorithms for genomic data analysis.