Valerie Jones

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Personal Profile

Mathematics undergraduate with professional experience applying data science and machine learning techniques in real-world industry settings. Skilled in developing predictive models, automating analytics workflows, and working with large-scale data using Python, SQL, and R. Passionate about using data to solve meaningful problems, with a strong foundation in statistical reasoning, model evaluation, and collaborative software practices. Eager to keep learning and contribute to impactful, data-driven projects.

Work Experience

Data Science Placement Year
Eastleigh, UK

GE Aerospace (General Electric)
June 2024 - July 2025

- Built and evaluated supervised learning regression models (Random Forest, MLP, KNN) in Python to predict complex operational parameters based on high-dimensional time series and sensor data.
- Used RMSE as a primary evaluation metric, performed hyperparameter tuning, and analyzed feature importance to improve model performance and interpretability.
- Queried and processed large-scale engine data using SQL from cloud-based data lakes (Amazon S3), working within Zeppelin notebook environments to support efficient data pipeline integration.
- Built and tuned Bayesian networks for optimal structure selection in mixture models applied to anomaly detection and alert prioritisation tasks, leveraging domain-specific data dictionaries to guide structure learning and variable mapping.
- Employed PySpark and Python in a structured model development pipeline, while independently identifying areas for enhancement and automating manual steps.
- Created parameterised Python scripts to auto-generate summary Excel reports, replacing manual reporting workflows and reducing analysis time for downstream teams.
- Used GitHub for version control, including regular commits, pull requests, and peer code reviews; followed internal coding standards and maintained code quality using SonarQube linting.
- **Technical Skills:** Python (numpy, pandas, scikit-learn, tensorflow, openpyxl, json, logging, matplotlib, seaborn, plotly), Jupyter Notebooks, SQL, PySpark, Git, GitHub, Cloud & Data Platforms (Amazon S3, Hue), AWS SageMaker, Machine Learning, Data Engineering, Data Science, Excel, JMP, JSL
- **Soft Skills:** Problem solving, Initiative, Communication, Collaboration, Adaptability, Time Management, Attention to Detail

Data Analyst Intern
Burgess Hill, UK

Edwards Vacuum
June 2023 - Sept. 2023

- Streamlined product transport flow analysis by creating an algorithm that flags inefficient product movements within the delivery mass data. My analysis flagged inefficiencies in current workflow, and solutions are now being actioned to reduce excess cost throughout global operations, resulting in substantial savings.
- Introduced machine learning to predict customer behaviour and decision-making. Implemented statistical models and forecasting techniques using R, SQL and Python. My findings prompted discussion within the company about the role of machine learning in forecasting for business and possible investment in further implementation of my algorithm.
- Gained proficiency in cross-platform data analysis, including; decision tree learning with LightGBM in Python, data manipulation with dplyr and lubridate, Power BI's analytics tools.
- Developed my presenting skills and learned how to convey my ideas and results in a more accessible, business-oriented manner when explaining to executives how my work could benefit the company.
- **Technical Skills:** R, SQL, Python, Power BI, Excel, Statistical Forecasting
- **Soft Skills:** Report writing, Presenting, Logical Thinking, Critical Thinking, Time Management

Education

University of Bath
Bath, UK

BSc (Hons) in Mathematics with Industrial Placement
Oct. 2022 - June 2026

- **Relevent modules:** Linear Algebra, Introduction to Data Science, Machine Learning 1, Statistics, Mathematical Programming, Numerical Analysis, Vector Calculus and Mechanics
- Maths Society, Rowing

Kendrick Grammar School
Reading, UK

A-levels & GCSEs
Sept. 2015 - June 2022

- Mathematics (A*), Further Mathematics (A*), Physics (A).
- 11 GCSEs including a 9 in Mathematics.

Certifications

DataCamp	End-to-End Machine Learning, Image Modeling with Keras, Big Data Fundamentals with PySpark, Intermediate SQL, Supervised Learning with scikit-learn, Introduction to SQL, Forecasting in Practice, Object-Oriented Programming in Python
Other	Analytics GitHub Training

Projects

Data Science: Machine Learning
Online

edX
June 2022 - Sept. 2022

- Learned popular ML algorithms, principal component analysis and regularisation to build a movie recommendation system.
- Trained algorithms in R to predict outcomes for future data sets.
- Understood complications of over-training and techniques to avoid it, such as cross-validation.
- **Technical Skills:** R, the caret package, model fitting

Women In Tech Hackathon
Bath, UK

University of Bath
Mar. 2023

- Created an app with SwiftUI that links cloud-based services and uses data analysis to find appropriate recipes and budgeting advice for users, to manage household food consumption.
- Pitched multiple presentations to company representatives, including Dyson and Kingfisher plc.
- **Technical Skills:** SwiftUI, CAD, SketchUp, Electrical Systems
- **Soft Skills:** Time Management, Team-working, Public Speaking

Python Programming
Bath, UK

University of Bath
Oct. 2022 - May 2023

- Year-long module writing complex algorithms by implementing Object Oriented Programming, including __init__ and __repr__ methods, abstract classes and abstract methods.
- Used advanced structures and code efficiency such as saving structured data with JSon and Pickle.
- **Technical Skills:** SymPy, NumPy, OOP, debugging

Skills

Programming	Python (numpy, pandas, scikit-learn, tensorflow, openpyxl, json, logging, matplotlib, seaborn, plotly, lightgbm, scipy), R (dplyr, ggplot2, tidyr, lubridate, caret, readr, shiny), SQL, MATLAB, PySpark, JSL
Technical	Excel, Version Control, Testing, Debugging, Power BI, Microsoft 365, Cloud Platforms, AWS, Big Data, Linear Algebra, Statistics, Analysis, Machine Learning, Data Engineering, Data Science, OOP, LaTeX, JMP
Soft Skills	Presentations, Time Management, Teamwork, Problem-solving, Critical Thinking, Documentation

References available upon request.