Lauren Brixey

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Data Scientist | Bridging Scientific Expertise with Machine Learning

Summary

Data-driven professional with 4+ years of experience in Process Chemistry, a STEM Master's degree, and a certification in Data Science and AI from the University of Cambridge. Skilled in applying machine learning and statistical methods using Python and industry-standard tools to solve complex problems, uncover insights, and drive business value. Proven ability to combine scientific rigour, analytical thinking, and hands-on data skills to deliver process improvements and impactful outcomes.

Experience

University of Cambridge

Data Science with Machine Learning and AI (February, 2025 - October, 2025)

Completed an intensive, project-based programme with a strong focus on applied machine learning, artificial intelligence, statistical modelling, and data storytelling. Gained hands-on experience using Python and advanced analytics tools to develop predictive models and derive actionable insights. Programme highlights included a live capstone collaboration with the Bank of England, addressing a real-world forecasting challenge using agile methodologies and AI-driven approaches.

Supervised Learning: Logistic regression, decision trees, ensemble models (random forest, gradient boosting) for classification and regression.

Unsupervised Learning: K-means clustering, anomaly detection, dimensionality reduction (PCA).

Natural Language Processing (NLP): Text classification, sentiment analysis using spaCy, TF-IDF, and deep learning (RNNs).

Deep Learning: RNNs for sequence modelling; Build Sequential and Functional Neural Networks using TensorFlow and Keras

Time Series Forecasting: ARIMA, Prophet, LSTM for trend prediction and anomaly detection

Model Evaluation: Classification report metrics and cross-validation strategies

Pharmaron

Senior Scientist I (July, 2024 - January, 2025)

Scientist II (April, 2022 - June, 2024)

Scientist I (August, 2020 - March, 2022)

Supported clinical drug manufacturing by designing experiments, analysing complex datasets, and developing scalable chemical processes. As part of the modelling team, applied data-driven models to simulate chemical processes, optimise performance, ensuring safety and reproducibility. Scaled up processes to the multi-kilo level to deliver high-quality drug products for pharmaceutical clients, meeting quality metrics and project timelines.

Stakeholder Communication: Collaborated with clients to translate scientific goals into actionable plans, clearly communicating complex data and modelling insights to both technical and non-technical stakeholders

Problem Solving: Solved complex, ill-defined scientific challenges by analysing experimental data and applying domain expertise to identify root causes and guide process improvements.

Experimental Design: Designed and analysed experiments using statistical methods to test hypotheses, improve process performance, and reduce development cycles.

Process Modelling: Implemented data-driven models to simulate multistep production systems, enabling performance prediction, parameter tuning, and scale-up planning.

Education

Master of Chemistry

First Class Honours Degree

University of York - Chemistry with Biological and Medicinal Chemistry (September, 2016 - May, 2020)

Masters Placement Year: University of Sydney (First Class, 2019-2020)

Certificates

Google Data Analytics Professional Certificate Google, Coursera (July, 2024)

Technical Skills & Tools

Languages (Python, SQL)

Libraries/Frameworks (pandas, NumPy, scikit-learn, TensorFlow, Keras, spaCy, NLKT)

Visualisation (matplotlib, seaborn)

Tools (Git, Jupyter, Google Colab)

Domain Knowledge (Chemistry, Pharmaceutical Processes, Experimental Design)

Education

Chemistry with Biological and Medicinal Chemistry

September, 2016 - May, 2020

Studying a Master of Chemistry at University of York.

A/AS Levels

September, 2013 - May, 2015

Studying a A/AS Levels at Northgate Sixth Form.