Alastair Hamilton

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SUMMARY

I am a dedicated and innovative data science and machine learning professional with seven years' experience. My background spans finance, risk, cybersecurity and sustainability where I have honed my analytical, problem-solving and engineering skills. Over the past two years I have successfully built a robust data science function from the ground up at a thriving sustainability start-up and am now eager to embrace a new challenge where I can continue to use my expertise in developing state-of-the-art machine learning solutions.

TECH STACK

Languages:	Python, SQL, Terraform, Bash
Cloud:	AWS, GCP, Azure, Sagemaker, VertexAI, Azure Machine Learning
Packages:	pandas, NumPy, scikit-learn, Hugging Face, PyTorch, matplotlib, nltk, LangChain
Ops:	MLflow, Weights and Biases, Github, Github Actions

EDUCATION

University of Edinburgh — June 2017
BSc Theoretical Physics — *2:1 (69%)*

EMPLOYMENT

Altruistiq | Sustainability — *May 2022 – Present*

Senior Lead Data Scientist

- Semi-automated our PDF data extraction using a pipeline of models for clustering, grouping, multi-label multi-class classification and text extraction, with human-in-the-loop to safely deal with any corrections. The full process had a baseline KPI of ∼50% accuracy and removed the need for technical engineers, saving the business ∼£172,000/year.
- Coded all models, MLOps, DevOps, infrastructure and internal tooling for my team. This includes our MLOps architecture for model versioning, model release, data versioning, data pipelining, and model monitoring.
- Developed and deployed a ChatGPT-based Streamlit app to enable analysts to navigate complex PDFs in multiple languages using a privately hosted Llama-2-13b model.

Lead Data Scientist

- Worked with product managers to break down complex data science and ML project requirements into a clear backlog that could be managed in sprint cycles by non-technical managers and be prioritised against other ongoing company projects.
- Developed and deployed a vector-based retrieval algorithm using BERT embeddings for automating the tagging of customer data.

Lloyds Banking Group | Financial Services — *Sep 2018 – May 2022*

Data Scientist

- Developed a novelty detection algorithm using the CluStream framework as part of the bank's insider criminal threat detection project.
- Authored and supported a Data Science Masters project at the University of Edinburgh, focusing on utilising Bayesian Neural Networks for anomaly detection.

Cognitive Data Science Manager

- Developed and embedded a topic modelling tool using unsupervised LDA topic models for identifying emerging themes in customer vulnerability documents, resulting in the successful identification of OOS climate change risks.
- Developed a vector-based retrieval search engine as a replacement for an FAQ Risk chatbot, avoiding around 300k in costs.

Employment *(Continued)*

BP | Oil & Gas   *Sep 2017 – Jun 2018*
Supply and Trading Market Intelligence Analyst (Graduate)

Publications

Thompson, S., Teixeira-Dias, F., Paulino, M., & Hamilton, A.   *2022*
Predictions on multi-class terminal ballistics datasets using conditional Generative
Adversarial Networks.
Neural Networks, 154, 425-440.

Thompson, S., Teixeira-Dias, F., Paulino, M., & Hamilton, A.   *2022*
Ballistic response of armour plates using Generative Adversarial Networks.
Defence Technology, 18(9), 1513-1522.