

Alastair Hamilton

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EDUCATION

University of Edinburgh

BSc Theoretical Physics

June 2017

2:1 (69%)

EMPLOYMENT

Altruistiq | Sustainability

May 2022 – Present

Senior Lead Data Scientist

- Semi-automated PDF data extraction using a pipeline of models for clustering, grouping, multi-label multi-class classification and text extraction deployed in AWS Sagemaker.
- Designed the level 4 MLOps architecture including: experimentation and model benchmarking; model versioning; model release; data versioning using a feature store; data pipelining; and model monitoring and automatic model retraining. This was done using MLflow, AWS Sagemaker, Github Actions and Metabase.
- Developed and led the code development for my team's codebase and internal tooling, including all DevOps for library releases across the company and the terraform for any infrastructure required.
- Developed and deployed a ChatGPT-based Streamlit app to enable analysts to navigate PDFs in multiple languages using a privately hosted Llama-2-13b model for data privacy.

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.
- Researched representing the current tag hierarchy as a knowledge graph, comparing an RDF and Apache TinkerPop property graph deployed on AWS Neptune.

Lloyds Banking Group | Financial Services

Sep 2018 – May 2022

Data Scientist

- Developed a novelty detection algorithm in Azure 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 successful identification of OOS climate change risks.

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.