Frank Mitchell

frank.mitchell25@googlemail.com • frankm-ai-portfolio.herokuapp.com • Glasgow, G44 4SX • 07818088924

Data Scientist

Detail-oriented Data Scientist with proven ability to deliver complex insights using data analytics and advanced methodologies. Known for a great analytical skillset, strong attention to detail, and significant ability to work in a team environment. Adept with predictive modelling, data processing, and numerous data mining algorithms. Learning to code and embarking on a career in Data Science has been the most rewarding experience of my life and I look forward to a long and happy future in the industry.

- Supervised Learning
- Unsupervised Learning
- Transfer Learning
- Python
- Object-Oriented Design
- NLP (NLTK)
- Statistical Analysis
- Deep Learning
- Postgres SQL

Professional Experience

Masters Student, Strathclyde University (AI & Applications) 9/2019 to Present

Gained extensive experience with deep learning and neural networks while also learning about big data technologies. Adept with numerous advanced search techniques and able to evaluate machine learning techniques. Skilled with evolutionary computation for business analysis. List of projects can be seen below.

- Enhanced user experience at BiP by building a model that correctly classifies procurement contracts with 97% precision and 98% recall.
- Built a Deep Neural Network from scratch and achieved a 96% precision and 97% recall on the MNIST dataset using the back-propagation learning algorithm.

Business Owner, A.M.C. Automatics 8/2013 to 6/2019

Maintained inventory and adjusted prices regularly based on market conditions. Directed a team of sales staff using proven leadership techniques that boosted morale and staff motivation. Adept with financial management and often dealt with customer complaints in a professional manner as quick as possible.

- Increased sales by over 30% by using more space within the business and achieved the highest scoring daily sales record of 12 cars and 20 extended warranties in 1 day.
- Bid competitively at auctions and often obtained vehicles at 5% below wholesale value.

Freelance Journalist, Multiple online and print music publications 3/2010 to 10/2016

Wrote numerous feature pieces for publishers and always followed strict style guidelines. Known for always submitting work on time before deadlines and traveling for work when necessary.

- Flew to both Ibiza and Miami to cover interviews, conferences, and events. Often flew back home the very next day and created the story for publication.

...continued...

Financial Administration Officer, H.M.R.C. 12/2004 to 7/2008
Served as administrative support for finance manager and maintained a filing system for maximal organisation. Developed, updated, and upkept monthly spending reports and coordinated with executives to discuss the financial position of the company. Paid third-party consultant invoices when needed.

Academic Projects

Deep Neural Network using back-propagation Deep Learning
Developed custom implementation of a Deep Neural Network using the back-propagation learning algorithm. Created a 'Layer' class that can store and manipulate its own weight matrix. The user can choose the number of hidden layers, hidden nodes and the number of outputs. The layers are held in a custom 'DNN' class that acts as an interface between layers. The implementation allows for easy matrix multiplication and back-propagation. As mentioned above, this model achieved a high level of success when classifying the MNIST dataset.

Multi-class document classification NLP
Increased user experience at BiP Solutions by developing a model to classify unlabeled procurement contracts. Conducted exploratory analysis on a large dataset of 350,000 instances to examine target distribution and word frequency. Developed a custom NLP pipeline using the Natural Language Toolkit (NLTK) that conducts stop-word removal, stemming and lemmatisation. Developed an ensemble method using linear SVM to achieve an average of 97.8% precision and 96.4% recall across all classes in the validation set.

Binary document classification NLP
Conducted exploratory data analysis on the 'Disaster Tweets' dataset hosted on Kaggle. Deep exploration of various embedding techniques, including TF-IDF and doc2vec. Used Naïve Bayes and Linear SVM to achieve a baseline accuracy of 78% on the unseen Kaggle data. Further explored Recurrent Neural Network architectures to improve classification accuracy and achieved 80.2% accuracy on the unseen Kaggle data. Wrote an extensive report to accompany my findings and hosted on Kaggle.

Education

Master of Science in Artificial Intelligence (IN PROGRESS)
Strathclyde University, Glasgow

Bachelor of Arts in Journalism (2008)
City University, London (Class Two Division One Honours)