ADAM GREEN

adam.green@adgefficiency.com - adgefficiency.com - linkedin - github - based in Christchurch, New Zealand.

SUMMARY

Data professional with a track record in both data science and data engineering. Expert domain knowledge of energy systems. Experienced in supervised, unsupervised and reinforcement learning. The kind of data professional who enjoys cleaning data.

My professional mission is to use data to combat the climate crisis. I like to work for companies who share both my concern about carbon & climate and my vision of how data can help to combat it.

Passionate about high quality software engineering and mentoring data professionals. Experienced working at remotely for early stage companies.

EMPLOYMENT

Jan. 2021 to June 2022 - Data Engineer - Gridcognition - Remote

Building the data engineering infrastructure for an early stage tech company:

- Lead data engineer in an agile team of five software engineers and one data scientist, building backend services in Python and managing infrastructure with Serverless & AWS Cloudformation. Responsible for providing data services to a Python data science stack alongside a Typescript React web application.
- Introduced the concept of data orchestration, leading to the adoption of Prefect for managing, monitoring and scheduling our data pipelines, running ETL tasks on Docker images on AWS Elastic Container Service with an AWS RDS Postgres database.
- Developed continuous integration (CI) and continuous development (CD) for backend services on Github Actions, introducing Makefiles, pydantic and mypy to improve improve reliability on top of the traditional unit & system tests.
- Developed a data quality monitoring system based on an `expectation->observation->action` framework, creating a data structure that easily allows the React frontend to communicate data quality issues and actions to customers.
- Built a service to request and store data from a third party API with AWS Lambda, S3 & Python. Reworked our AWS Lambda tooling to work with Docker images, improving maintainability by avoiding Lambda layers.
- Created a business intelligence system, processing application use data from AWS DynamoDB into AWS RDS Postgres.
- Converted a Jupyter Notebook developed by our data scientist into a full, well tested data pipeline for processing customer interval data uploaded through a React application with AWS Lambda and S3.

Oct. 2020 to Jan. 2021 - Reinforcement Learning Consultant - Elia Group - Remote

Applying reinforcement learning to European energy trading - learning an off-policy value function from human expert data.

2019 to 2020 - Bootcamp Director - Data Science Retreat - Berlin

Managing one of Europe's longest-running data science bootcamps:

- Developed data science courses, including test driven development, time series analysis, statistics and distributed computing.
- Hands-on technical mentoring of 40 student projects, including tabular data, computer vision, NLP and reinforcement learning. Interviewed and selected of students, supporting their technical & professional development during the program.
- Lead the school to be named in SwitchUp's Best Data Science Bootcamps in 2020 - the first time the school had received this award in it's five year history.

2017 to 2019 - Data Scientist - Tempus Energy - London & Remote

Developing data science models for unlocking flexible electricity demand in Australia.

- Worked as part of a technical team of three data scientists and two software engineers.
- Developed mixed-integer linear programming optimization models to optimize the dispatch of battery storage and measure the accuracy of our price forecasting. These models were put into production in AWS Lambda.
- Built reinforcement learning models in Tensorflow to optimize electric battery storage and flexible chiller demand.
- Used random forests, gradient boosting & deep learning for time series forecasting of NEM electricity prices.

2012 to 2016 - Energy Engineer - ENGIE - London

Energy engineering for a large scale utility - focused on industrial and district energy:

- Development of technical & financial (energy sale, O&M and discounted cash flow) models for large energy projects in Excel.
- Development and application of Mixed Integer Linear Programming models for optimization of some of the UK's largest industrial & district heating sites, including the 10 MWe, 90 MWth district heating scheme at the London Olympic Park.

EDUCATION

2011 to 2012 - The University of Manchester - MSc Advanced Process Design for Energy.

2006 to 2010 - University of Canterbury - B.Eng Chemical & Process Engineering with Honours.