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EXPERIENCE

Growth Intelligence

Junior Software Engineer

September 2022 - present

- Leading development of an automated data-validation task into data integration pipelines. Created a new python module to create a customisable config for the great expectations package. Creating an abstracted Luigi task which can be used across several data pipelines, for SQL or Pandas data.
- Developing a new dashboard for a react app showing an overview of client data. Refactoring React components from across the app to be reusable with in this dashboard. Using asynchronous components to display each component once the data is received, using Reflux stores to manage the state in React.
- Responsible for investigating data within MySQL databases and debugging data pipelines to understand where data is being corrupted in a monthly pipeline. Overseeing a database transition to a new data provider and maintaining two versions of several pipelines during this transition
- Performing DevOps tasks using Ansible playbooks to manager deployments to servers on AWS. Writing Infrastructure as Code using AWS CDK to manage infrastructure in AWS. Familiar with writing data pipelines communicating with s3 as file storage.
- Refactoring an older internal SQL helper package to increase the test coverage. Wrote tests using SQLAlchemy, mocking databases, and ensuring test data is cleaned once tests are completed. Integrating tests into new development work to ensure code quality and minimise mistakes.
- Acting as technical support for internal data science team for questions on infrastructure as well as finding and fixes bugs in the model building pipeline. Also, working as tech support for the customer team investigating issues within a data platform.

SKILLS

Python — Luigi, Pandas, Numpy, Flask

SQL — MySQL, SQLAlchemy

JavaScript — React, Reflux

Linux — Remote servers, Bash scripting, Ansible playbooks.

AWS, Docker, TravisCI

EDUCATION AND QUALIFICATIONS

University of Nottingham

MSc Computer Science with Artificial Intelligence (Distinction)

2021-2022

Key Modules:

Research Project

- Applying machine learning algorithms to find bugs within software
- Enhancing a process developed from the supervisor to allow it to work for more complex software programs.
- Researching and understanding testing, as well as the state of the art for using language models for code.
- Running experiments to compare different methods for this process.

Data Modelling and Analysis

- Understanding the data modelling pipeline. Using R to clean and analyse data using caret, and e1071.
- Worked with a partner to explore different techniques on the Wisconsin Breast Cancer dataset.
 - Created scatterplots and box plots as part of exploratory data analysis to find patterns.
 - Performed principle component analysis as part of feature engineering to reduce the number of components used in the models.
 - Created K Means Cluster, Support Vector Machine, and a logistic regression models, evaluating different hyper parameters using cross validation.
 - Research report written explaining the decisions, and results of the analysis.

Designing Intelligent Agents

- Understanding different types of agents. Integrating 4 agents into the Bristol Stock Exchange example program. Creating experiments to assess and compare the agents.

Databases, Interfaces and Software Design Principles

- Understanding database design and gathering requirements from stakeholders.
 - Normalization, schema design.
 - SQL
- Creating a dashboard for a “police database” with configured page visibility for various users/ admins.

University of Nottingham

BEng Aerospace Engineering

- Learning engineering principles, for the entire design process through to production
- CAD design, for design through to strength analysis and manufacturing process.
- Problem solving and large picture thinking when working over large projects.
- Management techniques and working with stakeholders for projects

COURSES

- AWS Cloud Technical Essentials, Boto3
- Complete Web Development Bootcamp (MongoDB, ExpressJS, React, NodeJS, Git)

ACHIEVEMENTS

Duke of Edinburgh Gold Award

- Tested teamwork and commitment, 6 months volunteering at local Parkrun. Planning and walking an expedition in Snowdonia and the Lake District

Head boy at Shoreham College

- School Ambassador; managing prefects; delivering speeches at various school events.