Jack Hilton

Software Engineer experienced with Python, TypeScript, NodeJS, SQL, Kubernetes, Docker and Terraform (IaC). Proficient in developing backend services using Django, FastAPI, PostgreSQL, MongoDB. Experienced with AWS services including ECS, S3, SQS, SNS, EKS, Athena, SageMaker and much more. Advocate of clean code, testing and CI/CD.

Education:

The University of Manchester   **2015 - 2019**

MEng Chemical Engineering – First Class Honours

Winstanley College   **2013 - 2015**

A Levels: Mathematics, Chemistry, Physics, Biology (A*A*A*A*)

Bedford High School   **2008 – 2013**

GCSEs: 8 (5A*, 3A) including English and Maths.

Work Experience:

Software & Infrastructure Engineer, Tracify.ai, Germany   **June 2024 – Present**

- Led infrastructure and observability initiatives, introducing a comprehensive monitoring stack using Prometheus, Grafana and custom JSON logging, significantly improving debugging, incident response and system transparency across all services.

- Standardised Kubernetes application deployments by introducing and maintaining a suite of custom Helm charts, enabling consistent, versioned and environment specific rollouts across multiple clusters, eliminating manual configuration and deployment errors.

- Created a culture of continuous improvement and improved code quality by introducing better testing, CI/CD and linting practices. Introduced self-hosted runners to reduce costs.

- Played a pivotal role in raising engineering standards, mentoring teammates in DevOps best practices and fostering a culture of deployment observability and operational excellence.

- Built internal developer tooling using the Kubernetes Python API, enabling staff to rapidly onboard new clients, provisioning custom deployments to meet client specific requirements.

- Developed custom Prometheus metrics and Grafana dashboards to track critical performance indicators (API response time, queue latency, resource usage), enabling bottleneck detection and performance tuning.

- Designed and maintained Django microservices powering core product features and platform integrations. Closely worked with the Shopify GraphQL API, custom Clickhouse and PostgreSQL database models, django-ninja, polars and many other packages.

Software Engineer, Spoke.ai, Berlin   **Nov 2023 – May 2024 (Acquisition)**

- Developed and deployed LLM focused python microservices to AWS, making use of tools such as LangChain and llama-index to develop chat-bots, document retrieval engines and more.

- Created a culture of continuous improvement and improved code quality by introducing better testing, CI/CD and linting practices.

- Developed a variety of command line tools using click, to improve the developer experience, particularly useful for rapidly producing varied datasets, for annotation purposes.

Software & Infrastructure Engineer, RegGenome, Cambridge   **Aug 2022 – Nov 2023**

- Rapidly developed a horizontally scalable solution using the Kubernetes Python API to improve the speed of data exports by >95%, ensuring deadlines for data drops were met.

- Created an AWS SQS messaging application to run web crawlers on demand or at regular intervals using a scalable Kubernetes deployment. Integrated with a slack bot via SNS to inform users of metrics or warn of broken crawlers.

- Integrated custom made and off the shelf machine learning models into the regulatory document pipeline using AWS SageMaker to run predictions and translations on text input.

- Developed web crawlers using the Scrapy python framework to scrape pdf and html content from regulatory bodies across the globe.

- Utilised Terraform and AWS CloudFormation to deploy infrastructure as code across sandbox, staging and production stacks.

- Implemented a solution to augment processed documents with human annotations via an EKS cronjob, S3 and the label studio python SDK.

- Created CLI utilities to standardise CI/CD, testing, packaging, linting and more across projects. Utilised tools such as SonarQube to help identify bugs, code smells and security risks.

- Incorporated DataDog and Sentry into cloud applications to ensure alerting, monitoring and logging were provided across all stacks and services.

Data Scientist, Co-op, Manchester   **Jul 2021 – Aug 2022**

- Developed and maintained ETL pipelines, productionising machine learning models to deliver personalised offers to millions of customers using pyspark, databricks and the Azure platform.

- Created python packages to improve the productivity of the team. One package streamlined data transfer between databricks and SQL server, helping reduce manual workload. Estimated time saving of around 300 team-hours per year, whilst eliminating key person dependencies.

Process Engineer, United Utilities, Warrington   **Sep 2019 – Jul 2021**

- Created automated reports using python and SQL to extract, transform and analyse data, making insights and analysis of site and asset performance easily available to stakeholders.

- Developed budgets for the renewable energy portfolio, including the development of models to forecast power generation and grid export, liaising with operation and finance teams.

- Identified and implemented energy savings opportunities in my role as an area deployed energy engineer, working with site teams to maintain compliance at least cost. Developed a data driven approach to my role, helping to prioritise which sites and opportunities to focus on.