

# JORDAN EVANS

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## EDUCATION

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**University of Bristol**

*Sep 2016 - June 2020*

Master of Physics, First Class Honours.

## WORK EXPERIENCE

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**Yard**

June 2023 - Present

*Senior Software Engineer*

- Manage a high-volume data collection and processing service, handling over 100 million daily requests. This includes proactive monitoring and troubleshooting to ensure smooth operations and immediate response to any anomalies.
- Oversee the AWS infrastructure: Keeping the Security Groups up to date, deploying and updating EC2 instances using the AWS console, boto3 Python SDK and leveraging AMI images. Reviewing AWS cost reports and taking appropriate action to minimise unnecessary costs.
- Frequently participating in organisational learning sessions, explaining complex topics to non-technical audiences. Some talks include *Infrastructure as Code*, *Multi-touch Page Attribution*, *Keyword Content Analysis via tf-idf*.
- Independently develop and maintain deep learning models for complex problems like: multi-touch page attribution, impression modelling and automated keyword generation.
- Develop and maintain around 200 cron style commands that run concurrently.
- Manage over 15 client MySQL databases, maintaining roughly 400 tables and 180 stored procedures per database.
- Added Promtail as a systemd service, scraping our cron logs and pushing them to an internal Loki client. Created a Grafana dashboard to surface the scraped logs for improved system monitoring.
- Increased the robustness of our machine learning repository by adding a Pytest suite to the CI/CD pipeline.
- Mentoring 2-3 developers with backend and database best practices, provisioning their host and virtual machines for development, and advocating for their needs with HR to secure better equipment.
- Actively participate in retrospectives, providing constructive feedback on past sprint performance, suggesting areas for improvement in upcoming sprints, and fostering open dialogue by actively listening to peer opinions.

**Yard**

Aug 2021 - June 2023

*Data/Backend Engineer*

- Developed server-side logic and APIs, focusing on Python (Django) and MySQL, adhering to SOLID principles.
- Employed test driven development using libraries such as Pytest, Unittest, and Playwright. Utilised common test paradigms including unit, functional, end-to-end and integration tests.
- Created data pipelines, stored procedures, and normalised databases.
- Spearheaded a successful partnership with DAPTEC at Cardiff Met University where I developed an optical character recognition (OCR) python tool, leveraging Googles OCR AI, to parse hundreds of diary entries. This was part of a collaboration with Techniquiest, a science discovery centre in Cardiff, where the exhibit still exists today.

- Worked with jQuery and Mocha to ensure the web scraping logic was up to date.
- Applied problem-solving and statistical modelling skills, and learned JavaScript.
- Developed key professional traits including effective communication, time management, and software development.

## TECHNICAL SKILLS

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<b>Proficient Languages</b>	Python, MySQL
<b>Competent Languages</b>	JavaScript
<b>Novice Languages</b>	Rust, C++
<b>Databases</b>	MySQL
<b>Web Development</b>	Django, React, HTML, CSS
<b>DevOps</b>	AWS, Docker, Ansible, Linux, Containerisation, Virtualisation
<b>Version Control</b>	Git, Bitbucket
<b>Tools</b>	VSCode, Vim, Grafana, RegEx, InfluxDB, HeidiSQL
<b>Machine Learning</b>	TensorFlow, PyTorch, Scikit-learn, Keras, Pandas

## KEY PROJECTS

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### Multi-touch Page Attribution

Implemented a deep neural net with attention for multi-touch page attribution. This project saw end-to-end data pipeline creation, AWS infrastructure leveraging: S3 buckets, Security Groups, AMI images, EC2 instances, and database normalisation. This project delivered critical insights to our clients, allowing them to effectively analyse individual pages and how they contribute to driving customer conversion.

### Keyword Content Analysis

Search engine optimisation is fundamental to enhancing a business's online presence, this project focused on optimising our clients keyword pool such that all keywords were relevant to their goals. To address this need, I developed a keyword content analysis tool. This tool employs a web data API to scrape the entirety of a client's website, fortnightly. The content is processed and stored in our database. The data is then parsed to a custom tf-idf algorithm, where each active SEO keyword is compared against the website content, and subsequently scored. Keyword content analysis has significantly reduced the manual work, freeing up the in-house SEO team to work on more strategic tasks such as content planning and strategy development.

### Self-hosting services with Docker

In my own time I have an on-going project where I have repurposed an old PC as a server. I host a bunch of services through Docker including: Plex for media streaming, TrueNAS for storage, Traefik as a reverse proxy, PiHole for network-wide ad blocking and DNS, and much more. All of these services are maintained using Infrastructure as Code, via Ansible playbooks. Running these services locally has provided me with valuable skills regarding cyber security, network configurations, and VPNs for secure connections. In the future I plan to upgrade this setup to a Kubernetes cluster to introduce redundancy and ensure a fail-over DNS, particularly my PiHole service.

### Development of a Multi-threaded Google Trends Data Scraper

Developed a multi-threaded Python cron job that utilises the pytrends library to scrape Google Trends data. The script makes use of various strategies to reduce rate limiting when hitting the Google Trends endpoint: randomised sleep intervals, rotating proxies, and a retry mechanism with a back-off factor. This tool drastically improved our clients' ability to target upcoming trending keywords, generating more traffic, and more conversions.