DR. JACK WALTON

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"Self-driven, adaptable and passionate technologist, with expertise in data engineering and data science, seeks challenging and intellectually stimulating work in a fast-paced environment."

Education

University of Newcastle upon Tyne, UK   📅 *2016–2020*
🎓 *PhD, Applied Mathematics*
📎 *"Bayesian Inference for Models of Collective Behaviour"*

University of Newcastle upon Tyne, UK   📅 *2012–2016*
🎓 *Master of Mathematics, 1st Class*

Experience

Data Engineer & Trainer   📅 *2020–Present*
💼 *Jumping Rivers Ltd.*

Notable Client Projects

🔹 *Serverless & massively scalable web app with AWS*   *Lead Developer*

Used Docker to productionise a Bayesian network model, and parameterised PDF report and data visualisation generation, via AWS Lambda and API Gateway (`github.com/nationalarchives/DiAGRAM/tree/live/api`).

Developed Terraform for IaC, provisioning development, staging and production environments (`github.com/nationalarchives/DiAGRAM-terraform`).

Automated front and backend deployment, controlling application life cycle with GitHub and GitHub Actions.

🔹 *Azure Databricks & App Service for emergency response coordination*   *Lead Developer*

Created Databricks init scripts to install custom ETL R package from Azure Repos.

Adapted existing ETL R scripts to write results to blob storage via {AzureStor}.

Improved typical application deploy time from ∼20mins to ∼2–3mins.

Responsibilities & Achievements

🔹 Taught over 250 hours of Python programming courses, with course difficulty ranging from "what is a variable?" to machine learning with `sklearn`.

🔹 Training tech stack product owner; prioritised, performed and delegated development and maintenance work to support delivery of ∼150 JR training courses per annum.

🔹 Employed Ansible and Terraform to manage, provision and configure client and internal infrastructure, working with a number of different cloud providers (Azure, AWS, and DigitalOcean).

🔹 Developed and delivered courses on the probabilistic programming language Stan, data visualisation in Python, best-coding practices and how to implement them, and getting the most out of Posit (RStudio) Connect as a data scientist.

Skills

| Python | R | SQL | Stan | bash | git | Ansible | Terraform | Docker | Packer |

📢 Confident and competent speaker; adept at communicating technical concepts and data insights to non-technical audiences.

📈 Strong numeracy skills, with an inherent understanding of Bayesian statistics, inference, model-fitting and prediction.

git "Intermediate" git user & version control advocate, harnessing version control on all code-based projects, and using CI/CD tools to aid code stability, dictate release cycles, and enforce good-coding practices.

🗄 Hands-on experience writing and optimising SQL queries to form an ETL process.

🐧 Capable of performing all manner of duties from a CLI, scripting in bash, and using standard command-line tools such as `ssh`, `grep`, `sed`, `vi`, etc. for basic systems administration duties.

Community

👥 Chief-organiser and chair of North East Data Science meetup series, overseeing ∼50% growth in group membership. Co-organiser of North East Databricks meetup series.

📜 Regular contributor on Stack Overflow—answering over 130 questions, reaching >340k users, and ranking in the top 8% of overall users.

➤ Maintainer of jwalton.info, a programming blog and personal website which attracts 800–1000 unique monthly users, with ∼85% of traffic acquired through organic search.

Awards

British Data Awards   📅 *March 2023*
🏆 *Rising Star of the Year (finalist)*

Dynamites22   📅 *November 2022*
🏆 *Rising Star (finalist)*

Northumbrian Water Hackathon   📅 *July 2019*
🏆 *Best team solution*

UK Conference on Multiscale Biology   📅 *April 2018*
🏆 *Best poster award*

References

Available on request