Louise Kirkham
(MPhys MSc) Senior Data Scientist | Machine Learning Ops

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Summary

A passionate data scientist with diverse research experience within both government and industry, and demonstrated ability to lead collaborative projects .

Particular interest in applying machine learning techniques to optimisation and recommendation problems; and using MLOps best practices to scale and productionise data science projects - to provide true, data-driven, cloud-based solutions.

Always looking for new opportunities with forward-thinking organisations to deliver real impact, as well new challenges for continued professional growth.

Skills

Programming languages: Python, R, Matlab, Haskell, Scala
Model Deployment: Docker, Kubernetes
Cloud Computing: Google Cloud Platform
ML Frameworks: Scikit-learn, NLTK, Tensorflow
Data Visualisation: Plotly, Matplotlib, Seaborn, ggplot2, Dash, Shiny
Processing and Compute Resources: SQL, Spark
Ways of Working: Agile Framework,
Git version control,
Lean Startup Approach to Data Science,
Scaling Data Science Projects,
Test Driven Development, ML Ops Practices

Core Values

Honesty and Integrity

Collaboration

Accomplishment and Achievement

Variety and Diversity

Continued Professional Development

Work/Life Balance

Education

University of York   2004 - 2008
MPhys (Hons) Physics with Astrophysics 2009
Awarded: 2:1
Dissertation: Upgrading the Department's Radio Telescope for the Detection of the 6.7 GHz Methanol Maser Line

University of Manchester   2011 - 2012
Radio Wave Imaging and Sensing MSc (Hons) 2011
Awarded: Distinction
Dissertation: Characterisation and Calibration of a Large Aperture (1.6 m) ka-band Indoor Passive Millimetre Wave Security Screening Imager [Proc. SPIE 8544, Millimetre Wave and Terahertz Sensors and Technology V, 854408 (26 October 2012)]

Employment

Royal Mail Group
Senior Data Scientist (ML OPs)   Nov. 2021 - Present
- Leading data science projects to understand operational and commericial problems and delivering ML solutions to the business that provide tangible benefit.
- Particular focus on CI/CD processes, ML Ops and end-to-end deployment of models to Google Cloud Platform production environments.
- Line management of junior colleagues and mentoring to support team members with agile ways of working and cloud deployment of data science projects.
- **Key achievement**: development and delivery of the Highways England Automated Diversion System (HEADS) which recommends fast and safe diversions around planned road closures - Royal Mail's network losses fell to a 10-year low following it's introduction and saved the company from a £1.5m Ofcom fine for missed Quality of Service (QoS) targets.

Data Scientist   Dec. 2019 - Nov. 2021
- Supporting projects within the Data Science team to deliver new insights and process-enhancing tools for the business to reduce costs, increase efficiency and improve safety.
- Development of models for revenue prediction, recommender systems, NLP and sentiment analysis, demand forecasting and route optimisation.
- Line management of junior colleagues and mentoring to support team members with agile ways of working and cloud deployment of data science projects.
- **Key Achievement**: Redeployment of on-premise data science solutions to the cloud and development of new CI/CD processes for more efficient delivery of new solutions - faster delivery by the whole data science team, reduced solution costs by 50% and improved stability and reliability.

Junior Data Scientist   July 2018 - Dec. 2021
- Supporting projects within the data science team within Group Business Intelligence, focused on customer experience insight through natural language processing of enquiries, customer segmentation revenue prediction and churn modelling.

Defence Science and Technology Laboratory (DSTL)
Senior Research Scientist   Apr. 2018 - July 2018
- Providing scientific expertise to support research and development projects within the Sensing and Detection group of the Counter Terrorism and Security division.
- Experimental design and evaluation of detection and diagnostic technology for military and security applications. Leading an experimental trial team to deliver cutting edge research including laser-plasma acceleration at a world-class high-power laser facility.
- Associated publication: Response of nuclear track detector CR-39 to low energy muons [H S P Thomas et al 2021 Plasma Phys. Control. Fusion 63 124001]

Research Scientist   Nov. 2014 - Apr. 2018
- Support to research and development work within the Novel RF Techniques Team of the Sensing and Detection Group, Counter Terrorism and Security Division.
- Collaborating with industrial, academic and other government departments both UK and internationally to deliver critical, cutting-edge advice and insight to military and government stakeholders.

Graduate Research Scientist   Nov. 2012 - Nov. 2014
- Provided support to research and development work within the Physical Detection Team, Sensing and Detection Group, Security Sciences Department.
- Contributed to experimental design and evaluation testing of operational military diagnostic equipment.

Activities

Swing and jazz dance (Lindy Hop and Chrous Line) , quad-skating, motorcycling

Volunteering - Data Science support to DataKind UK; Outreach with STEMnet Ambassador Program; Support to Hackney and Homerton Mutual Aid Groups

Stage-managing and Front-of-House support to vintage dance and cabaret events.