Louise Kirkham

Senior AI Engineer | MLOps Practitioner | Solution Architect

louisek@gmail.com | +44 (0)7425 174851 | linkedin.com/in/louise-kirkham | London, UK
github.com/LNKirkham | github.com/lnkirkham-datasparq | louisekirkham.io

About Me

Senior AI Engineer with extensive experience developing enterprise ML solutions across diverse UK and global organisations in a range of sectors.

I specialise in MLOps, GenAI and responsible AI development, translating complex client requirements into scalable solutions that deliver measurable business value.

I take a pragmatic, impact-focused approach that prioritises simplicity while delivering robust solutions and I'm committed to responsible AI by design.

Core Skills

Solution Architecture & Strategy: Enterprise AI platform design, multi-cloud deployment, technical due diligence
MLOps & Platform Engineering: CI/CD for ML, model governance, automated retraining, monitoring and observability, feature stores, model versioning
GenAI & LLM Systems: RAG architecture, LLMOps, agentic workflows, responsible AI frameworks, fine-tuning, prompt engineering, multi-modal AI systems
Client Engagement: Technical pre-sales, solution design, stakeholder management
Technology Stack: Python, Azure, GCP, Docker, Terraform, Kubernetes, Databricks, Spark, Snowflake, DBT, LangChain, MLflow, OpenAI, Gemini

Professional Experience

Senior Consultant AI Engineer | Datasparq

February 2023 - Present

Strategic Client Leadership & Revenue Generation

- Architected complex enterprise solutions, including multi-project programmes of work with a global consumer healthcare company, navigating enterprise approval processes through Technical Data Design Authority and Architecture Review Boards
- Supported technical pre-sales for major clients including supply chain, consumer healthcare, facilities management, insurance and private equity firms, generating significant proposal wins
- Lead MLOps Assessments such as for major insurance group across 4 business units, engaging C-suite stakeholders (CDAO, CTO) and generating significant follow-on engagement

Key Project Deliveries:

Leading Transactional Insurance Underwriter: SPA Red Flag Assistant - GenAI Document Intelligence

- **Challenge**: Leading transactional insurance underwriter needed to accelerate Sale & Purchase Agreement reviews (manual process took hours per document)
- **Solution**: Built LLM-powered system fine-tuned with client's underwriting principles for intelligent flagging of problematic language with explainable AI rationales
- **Impact**: 92% accuracy, 6+ hours saved per document, ~3 FTE productivity enhancement
- **Technologies**: Fine-tuned LLMs, SharePoint integration, custom prompt engineering, explainable AI frameworks

International Manufacturing Company: Smart Inventory Optimisation

- **Challenge**: International manufacturer losing revenue through inaccurate demand forecasting across global SKU portfolio
- **Solution**: Designed ensemble forecasting system with dynamic model selection, integrated and scalable Azure DevOps/Snowflake/dbt pipeline
- **Impact**: 10x ROI in under 2 years ($633k annualised revenue uplift), doubled forecasting accuracy, +110 hours monthly labour savings
- **Technologies**: Azure DevOps, Snowflake, dbt, Python, ensemble ML forecasting methods

Professional Experience (*continued*)

Global Consumer Healthcare Company - GenAI Content Intelligence Suite

- **Challenge**: The organisation needed increased automated in their regulatory compliance process and inclusivity screening for marketing content, to remove bottlenecks and increase performance
- **Solution**: Multi-modal GenAI system combining LLM-powered content analysis, computer vision for demographic assessment and regulatory knowledge integration
- **Impact**: 60% reduction in content review cycle time, increased brand safety compliance consistency, higher campaign throughput
- **Technologies**: Azure OpenAI, Computer Vision APIs, RAG architecture, custom prompt engineering

Additional Achievements:

- Generated follow-on client engagements through technical excellence
- Led internal GenAI working group, defining secure LLM deployment best practices
- Line managed mid level engineers with focus on career development and technical growth
- Led Learning and Development initiatives for the Engineering team, developing core training, facilitating conference attendance and organising hackathons to support team growth and cross-family collaboration.
- Co-led internal ethics working group, implementing anonymous concern reporting and ethical AI frameworks

Consultant AI Engineer | Datasparq

April 2022 - February 2023

Established strong technical partnerships with key enterprise clients, demonstrating value through proof-of-concept deliveries and stakeholder engagement. Rapidly developed expertise in GenAI technologies, MLOps practices and cloud-native deployment patterns while supporting major enterprise engagements and foundational MLOps assessment frameworks.

Senior Data Scientist | Royal Mail Group

July 2018 - April 2022

- **HEADS Automated Diversion System:** Led end-to-end development of ML-powered route optimisation serving national logistics network. Reduced network losses to 10-year low, supporting £150M annual regulatory compliance target.
- **Cloud Migration & CI/CD Implementation:** Redeployed on-premise data science solutions to the cloud and developed new CI/CD processes. Achieved faster delivery by the whole data science team, 50% cost reduction and improved stability and reliability.
- **Additional Impact:** Built production models for revenue prediction, recommender systems and demand forecasting. Established MLOps practices across data science organisation.

Senior Research Scientist | Defence Science and Technology Laboratory (DSTL)

November 2012 - 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.
- Lead an experimental trial team to deliver cutting edge research including laser-plasma acceleration at a world-class high-power laser facility (CLF, SLAC). 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*]

Education & Certifications

- **MSc Radio Wave Imaging and Sensing** (Distinction) | University of Manchester | 2011 | 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)*]
- **MPhys Physics with Astrophysics** (2:1) | University of York | 2004-2008
- **Certified Microsoft Azure ML Engineer Associate**