Gareth Walker, PhD

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Summary

Principal ML Infrastructure Engineer with 15+ years architecting scalable ML systems and leading cross-functional teams. Expert in MLOps, deep learning, and production infrastructure with proven track record translating complex challenges into deployed solutions.

Experience

Principal ML Infrastructure Engineer *Utilidata*
Seattle, WA Sep 2025 – Present

- Architect MLOps infrastructure for edge-deployed AI enabling advanced power analytics and management on GPU servers
- Lead technical strategy for ML deployment pipeline using ONNX, Nvidia Triton Inference Server, and gRPC services
- Design scalable infrastructure leveraging Databricks; drive cross-functional collaboration across ML, engineering, and product teams

Machine Learning Engineer → Data Science Manager → Senior DS Manager *Omnidian*
Seattle, WA Aug 2019 – Sep 2025

- Joined as sole Data Scientist at AI/ML-enabled solar asset performance assurance company; defined ML vision supporting Series A/B/C fundraising, built initial infrastructure (Docker, Flask, CI/CD, SVMs), scaled team across MLOps, Data Engineering, and Applied Data Science
- Pioneered Databricks adoption (MLflow, Spark, model registry, feature store) across organization; led production ML services via deployed models, SQS messaging, and Spark pipelines
- Architected solutions from linear regression to deep learning: LSTM/GRU for time series, CNNs for image analysis, LLMs for unstructured data; drove technical roadmap for physics-based PV models

Fellow *Insight Data Science*
Seattle, WA Jan 2019 – Aug 2019

- Microsoft AI For Good Hackathon finalist: Built NLP tool for human rights abuse detection using entity recognition and SVMs
- Retrained ResNet50 CNN (PyTorch) for helipad detection in aerial imagery; synthesized results with DBSCAN clustering

Business Analyst → Senior Consultant *Atkins / Atkins Acuity*
London, UK Sep 2013 – Dec 2017

- Led economic and financial modeling for utility regulation, policy analysis, and infrastructure investment; managed $1M portfolio
- Developed probabilistic models for water utilities: lead pipe replacement strategies, demand forecasting, tax evaluation across 27 companies
- Built regression models and GIS analyses supporting regulatory frameworks and affordability initiatives

Patents

US Provisional Applications (Jan 2025, Assigned to Omnidian): *Hardware Specifications Modeling* (63/750,232); *Energy Production Monitoring CT Issue Detection* (63/750,222); *Energy Production Asset Performance Analysis* (63/750,225)

Education

PhD, Geography & Environment (Econometrics & GIS) *University of Oxford, 2009 – 2014*
MSc, Water Science Policy & Management *University of Oxford, 2006 – 2007*
BSc, Physics with Philosophy of Science *King's College London, 2003 – 2006*

Technical Skills

ML Infrastructure & MLOps: ONNX, Nvidia Triton Inference Server, MLflow, Databricks, Docker, gRPC, CI/CD
Deep Learning & ML: PyTorch, TensorFlow, scikit-learn, LSTM/GRU/RNN, CNN, Transformers, LangChain
Data & Cloud: Apache Spark, PySpark, AWS (SQS, S3), SQL/MySQL, Data Warehousing, Feature Engineering
Languages & Tools: Python (Pandas, NumPy, Matplotlib), Git, Flask, Gunicorn, REST APIs
Leadership: Technical Strategy, Cross-Functional Collaboration, Team Management, Investor Relations