

Luke Howlett

Solutions Engineer | Python, AWS, Observability, Automation & Production Systems

Chelmsford, UK • [Email](#) • [LinkedIn](#) • [Website](#)

Profile

Solutions-focused engineer with experience designing, building and supporting production systems across cloud infrastructure, data pipelines, observability and automation. Strong Python background with hands-on experience across AWS, Lambda, PostgreSQL, REST APIs, Docker, Terraform, Azure DevOps, Grafana, CloudWatch and PagerDuty.

Experienced in taking loosely defined technical requirements, understanding existing systems, diagnosing complex issues and delivering practical, maintainable solutions. Comfortable working across software, infrastructure and data layers, with particular strength in monitoring, automation, integration and production troubleshooting. Strong communicator with experience working directly with technical stakeholders, documenting solutions and supporting operational handover.

Professional experience

Python / Data Systems Contractor — Techlett Consulting

Chelmsford, UK | Jan 2025 – Present

- Delivered production engineering, observability and automation solutions for DDK Positioning, supporting live GNSS correction services and distributed technical systems.
- Designed and implemented Python-based workflows across AWS Lambda, SNS, S3, RDS PostgreSQL and CloudWatch.
- Built monitoring and alerting systems covering service availability, data-flow failures, stream disconnects, timing irregularities, degraded performance and system-wide incidents.
- Developed Grafana dashboards, CloudWatch monitoring and PagerDuty integrations to improve operational visibility and accelerate incident response.
- Investigated and resolved issues across cloud infrastructure, databases, application logic and real-time data flows, often working from incomplete or ambiguous symptoms.
- Built automation and diagnostic tooling to reduce manual investigation and make operational issues easier to identify and reproduce.
- Developed integrations between cloud services, databases and internal systems using APIs, event-driven workflows and structured messaging.
- Used Python and SQL extensively for automation, validation, debugging, data investigation and operational analysis.
- Managed infrastructure and deployment changes using Terraform, Git, Azure DevOps and CI/CD practices.
- Worked directly with engineering stakeholders to understand requirements, scope technical work and translate operational needs into practical solutions.
- Produced technical documentation, deployment guidance and operational handover material for systems delivered into production.

GNSS Data Analyst / Research Engineer — CHC Navigation / CHC Tech

Norwich, UK | 2020 – 2024

- Developed Python-based tools, automation and analytical systems supporting GNSS positioning, receiver testing and correction-service research.
- Built repeatable workflows for ingesting, processing, validating and analysing large volumes of technical and time-series data.
- Investigated complex system behaviour across distributed receivers, data feeds, algorithms and positioning infrastructure.
- Used Python, NumPy, pandas and SQL to identify anomalies, diagnose failures and support technical decision-making.

- Developed automated validation and quality-control tooling to improve reliability and reduce manual analysis.
- Integrated data from multiple technical systems and formats into reproducible analytical workflows.
- Worked independently on open-ended technical investigations where root causes and solutions were not known in advance.
- Collaborated with software engineers, researchers and technical stakeholders to turn findings into practical engineering improvements.
- Produced technical reports, visualisations and clear explanations of complex system behaviour for different audiences.

Key Projects

Production Observability and Incident Detection Platform

Designed and delivered a monitoring and operational alerting platform for live distributed correction services.

- Built Python and AWS-based workflows integrating Lambda, SNS, S3, PostgreSQL and CloudWatch.
- Implemented automated detection of service failures, missing data, timing anomalies and degraded system performance.
- Created Grafana dashboards and PagerDuty integrations to support operational response.
- Designed alerting logic to distinguish isolated failures from wider system incidents.
- Improved troubleshooting by connecting metrics, logs and data-quality signals into clearer diagnostic workflows.
- Managed infrastructure and configuration through Terraform, Git and CI/CD practices.

Production Automation and Systems Integration

Built automation and integration tooling across cloud services, databases and operational systems.

- Developed event-driven services and automation using Python and AWS Lambda.
- Integrated structured data flows across APIs, messaging systems, PostgreSQL and cloud storage.
- Built reusable tooling for validation, system health checks and operational investigation.
- Diagnosed failures across application, infrastructure and data layers rather than treating systems as isolated components.
- Produced maintainable solutions with clear documentation and operational handover.

Large-Scale Data Processing and Validation

Developed reproducible pipelines for analysing millions of technical observations from distributed systems.

- Used Python, pandas, NumPy and SQL to process, transform and validate large time-series datasets.
- Developed reconciliation and matching logic across multiple data sources.
- Identified anomalies, behavioural changes and system performance issues through automated analysis.
- Used evidence from raw data to support engineering decisions and technical investigations.

GNSS Observatory

Designed and developed a public-facing platform for exploring the health and availability of global GNSS reference infrastructure.

- Built automated data ingestion, validation and processing workflows.
- Integrated public technical datasets into a structured application.
- Combined backend data engineering, web development and infrastructure deployment.
- Developed the project independently from initial concept through implementation and deployment.

Core capabilities

Programming & Automation: Python, SQL, PostgreSQL, pandas, NumPy, TypeScript/JavaScript, scripting, automation, REST APIs, JSON

Cloud & Infrastructure: AWS Lambda, S3, RDS, SNS, CloudWatch, Azure DevOps, Docker, Terraform, Linux

Observability & Monitoring: Grafana, CloudWatch, PagerDuty, logging, alerting, metrics, incident detection, operational dashboards, system health monitoring

Systems Integration: REST APIs, event-driven workflows, cloud services, databases, data pipelines, service integrations

Troubleshooting: Root-cause analysis, production debugging, log investigation, SQL diagnostics, failure reproduction, ambiguous problem decomposition

Software & Engineering Practices: Git, CI/CD, infrastructure as code, automated testing, code review, technical documentation, agile delivery

Data Engineering: Data ingestion, transformation, validation, reconciliation, structured and time-series data, production pipelines

Customer & Stakeholder Delivery: Requirements discovery, technical scoping, solution design, stakeholder communication, documentation and operational handover

Education

BSc Mathematics

University of East Anglia | 2016–2019

Strong foundation in mathematical modelling, statistics, numerical methods, analytical problem solving and computational techniques.

Additional information

- Strong practical experience building observability, monitoring and automation solutions around production systems.
- Comfortable entering unfamiliar technical environments, understanding existing architecture and taking ownership of complex problems.
- Experienced working across software, infrastructure and data layers rather than within a single narrow specialism.
- Strong communicator with experience translating operational requirements into technical solutions and explaining complex findings clearly.
- Personal projects and source code available at github.com/lukehowlett97.
- Portfolio and downloadable CV available at cv.techlett.xyz.