Kieran O'Hara

49 Jamaica Street
Studio N
Liverpool
L1 0AH
0151 4332195
sales@irkb.me
https://www.irkb.me
https://www.linkedin.com/in/k-ohara

Senior Software Engineer and contractor with a decade of experience across the stack. Background spans BBC, Bet365, Manchester Airport Group, and high-growth startups. Specialises in TypeScript, Python, AWS, and DevOps, with a consistent focus on TDD and clean delivery. AWS Certified.

Experience

Contract Senior Software Engineer (with AI Focus), Beta Aquarii — August 2025–January 2026.

Built AI micro-services for a sales technology platform, using LLMs to classify and qualify leads from unstructured sources (LinkedIn posts, job advertisements) and sync enriched data to Power Apps CRM.

- Built AI classification (batch) and lead qualification (real-time) services using **LangChain and LLM** (OpenAI), producing **Zod**-validated structured outputs from unstructured data like LinkedIn posts and Job advertisements.
- Architected a **Node.js** streaming pipeline for **batch AI inference**, implementing custom encoders & decoders with back pressure handling to process large datasets memory-efficiently and cost-effectively. Persisted results to **DynamoDB**.
- Orchestrated multi-stage AI workflows with **AWS Step Functions**, coordinating batch upload, inference, status polling, and result persistence across Lambda functions.
- Synced AI-enriched leads and classifications to **Microsoft Power Apps CRM** via event-driven **Lambda** consumers, closing the loop from raw content to actionable sales data.

Contract Senior Software Engineer, Manchester Airport Group — September 2024–November 2025.

I introduced big data technology into Manchester Airport to integrate and augment their event driven airport operations.
- Researched, developed and deployed an **AWS Managed Apache Flink** application to augment Flight Data events that are emitted from an **Apache Kafka** stream.
- Developed and deployed an AWS Managed Apache Flink application to route and augment biometric data events that are emitted from an Apache Kafka stream.

- Designed and deployed Apache Flink applications using the **Java** language. The software applications used Test Driven Development (**Jupyter 5**), Property Testing (**JQwik**), with Test Containers and Flink Test Harness to ensure a small feedback loop with high code quality and coverage.
- Added Contract Testing into the Apache Flink applications to ensure that the data and events produced by the application conformed to a contract as specified by architects. This replaced the need for extensive swagger documentation.
- Designed an Apache Flink application to respond to events that are triggered by computer vision models acting on the airfield.
- Architected a centralised authentication service using **AWS Cognito** with Microsoft Entra ID federation, enabling enterprise **SSO** across internal applications via OAuth 2.0/OIDC

Contract Senior Software Engineer, Qumin — January 2025–May 2025.

Designed and Delivered financial reporting tools for Qumin's internal business management platform; delivering P&L dashboards and cost analysis features.
- Built P&L reporting suite using **Python Django REST Framework** with advanced **ORM** queries to calculate costs from utilisation hours and historical rate data.
- Designed flexible cost categorisation data model enabling multi-dimensional P&L analysis by service, client, and cost type.
- Built reusable **React** component library supporting embedded/standalone modes with synchronised filtering across dashboard views.

Contract Senior Software Engineer, Manchester Airport Group — March 2024–September 2024.

I joined a team that were undertaking a Machine-Learning initiative to deploy computer vision models on Airport runways.
- Trained a computer vision model using distillation method to create a model small enough to be deployed onto edge devices. Used Python, AWS SageMaker and AWS Ground Truth.
- Created a software component responsible for processing streams on edge devices using Python, GStreamer, DLStreamer. Events of interest were sent to AWS Kafka using AWS IoT and MQTT.
- Managed a fleet of on-premise, IoT edge computing devices using AWS GreenGrass, AWS Systems Manager and AWS IoT Core. The infrastructure was written as code using AWS CDK.
- Built an MLOps pipeline using AWS CDK that processes streams of Airport video using Python and AWS SageMaker, AWS Batch and AWS StepFunctions.

Contract Senior Software Engineer, Bet365 — April 2023–February 2024.

Worked with other Senior Engineers in the gambling domain, to migrate a complex notifications monolith into maintainable micro services.
- Analysed a C# solution to identify boundaries of business logic that can be broken out into independent micro services.
- Created new micro services in Golang by using a TDD and a reusable module to reduce bugs, boilerplate code and to increase reusability. The microservices homed notification logic and are deployed onto Kubernetes clusters.

- Wrote frontend UI code by using a custom, reusable component library that is built using Typescript.

Software Engineer Team Lead, Bionic — January 2022–February 2023.

Picked by the CTO and Head of Engineering to lead an exemplary stream-aligned product-delivery team (so-called "squad model"). Team was showcased by the CTO to other executives to push the agenda for adapting modern, generative ways of working. Won "best team of the quarter" in 2022.

- Created and executed strategy to transition team to adapt modern agile practices. All disciplines responded positively to the changes introduced.
- Coached and mentored technical team members into building a reusable product platform as opposed to building more siloed products. The platform was delivered in six months and enabled the business to release two new products within the same financial quarter.
- Collaborated with the technical team, product team and Head of Architecture to decompose existing solutions into event-driven micro-services that are hosted on AWS. Developed a reusable CDK library to ensure new services used the same Serverless patterns (AWS Lambda, Fargate, DynamoDB) and CI/CD SDLC (AWS CodeBuild, CodePipeline).
- Transitioned team from using Ruby on Rails towards using Typescript, NodeJS, NestJS and Vue3. Worked across the engineering teams and UX teams to introduce a catalogue of shared UI components that are browsable in Storybook.
- Pioneered testing strategy based on creation of a user-journey for developers and testers. Worked with developers and testers to design the types of test to run, when to run them, the frameworks to use and who is responsible for writing them. These were incorporated into the CDK module for CI/CD.
- Led the introduction of shared infrastructure between engineering teams and TechOps teams. Includes VPCs, DNS hosted zones, ECS clusters, and operational channels for P1 incidents.
- Created a high-performance delivery culture that was measured using the 4 DevOps metrics. Communicated metrics to senior stakeholders to illustrate the importance of delivering quality next to throughput. The team attained an average lead-time of 4 days across 5 new microservices due to strong focus on continuous delivery.
- Worked closely with Product Owner and Scrum master to ensure we were following lean startup principles; i.e. well defined goals, vertical slices and ensuring all software releases were theoretically releasable to an audience. The approach enabled us to release a subset of the platform to our users earlier before all features were ready.
- Coached 8 direct reports effectively to transition them away from siloed I-Shaped Developers into T-Shaped Software Engineers; ranging from Mid-developer through to Principal. Secured a promotion for one of my direct reports to become a Senior Engineer.

Software Engineer Team Lead, On the Beach — April 2021–December 2021.

I managed six software engineers; ranging from senior to mid-level. In this role I found myself wearing multiple "hats" including Team Lead, Product Owner and Project Manager.

- Worked with the Engineering Manager to divide their sixteen-person-team into 3 six-people teams; being mindful to ensure purpose and talent is distributed appropriately.

- Executed a *technology pivot* as described in "*The Lean Startup*" to lead the delivery of a new product that is responsible for gathering flight data and making bookings. Our team's driving principle was to ensure working on the product provided a great Developer Experience.
- Worked closely with the platforms team to ensure our new product had mass-scale. This involved teaching our local team how to use Kubernetes, and to influence the platform team to enable what we were aiming to achieve.
- Introduced and maintained change to the team's previous ways of working. Moving the team from ad-hoc ways of working to agile methodologies involved teaching/coaching, meeting and overcoming resistance to change, taking ownership of team calendar and finally delegating those responsibilities.
- Fostered an environment of collaboration amongst team members; successfully transitioning the team-norms from working in silos to regular pairing, mobbing and sharing of work.

Software Engineer Team Lead, BBC Content Discovery — July 2019–April 2021.

I worked as the technical lead for four, full-time software engineers that ranged from senior level to associate.
- Led the planning and roll out of an updated front-end-framework that had zero dependencies on the BBCs physical data centres. Involved collaboration with 73 clients around the BBC (including News and Sport).
- Built up team by reviewing CVs, attending assessment centres, interviewing candidates and offering roles to correct matches.
- Facilitated the learning and development of reports by coaching, frequent 1:1s, objective setting meaningful to the individual.
- Prepared and achieved a promotion for an associate engineer.
- Worked closely with Product Owner, Business Analyst and Project Manager to shape and prioritise the delivery of multiple projects for our team.
- Attended courses in the BBC's leadership programme, covering topics such as emotional intelligence, coaching, honest conversations and public speaking.

Senior Software Engineer, BBC Content Discovery — March 2018–July 2019.

I worked as a senior engineer on the BBC's Homepage, Search and Orbit products. In this role, my efforts focused on helping a technical team deliver faster whilst cultivating a sustainable working culture.

- Contributed heavily to replacing the analytics engine used across BBC's digital estate; from Comscore Dax to AT Internet. The migration was delivered on time and seamlessly. as was acknowledged by the Deputy Director of BBC Platform.
- Collaborated with the Business Analysts, legal and product to ensure the BBC's online estate is GDPR compliant. The work was time sensitive, as such required the delicate balance of taking out and paying down technical debt.
- Collaborated with Principal and Test Engineers to birth the design, delivery and adoption of a shared continuous delivery pipeline that delivers code to production cloud infrastructure (AWS) quickly.

- Contributed heavily to BBC's Infrastructure as Code that was written in and automated with Python. In particular the team leveraged open source libraries like Troposphere, Invoke and Fabric to automate both the deployment of AWS Infrastructure and packaging of Linux software into RPMs.
- Contributed to the internal DevOps dashboards that monitored the security of software installed on fleets virtual servers. The code responsible for inventorying and displaying the installed software was written in Python and leveraged libraries like Flask, and beautiful soup for scraping.
- Gave a live talk to 100+ developers at the BBC to demonstrate how inter-organisation teamwork improved their reach to audiences in Asia and Australasia.

Software Engineer, BBC Content Discovery — January 2017–March 2018.

I worked in a multi-disciplinary team to make the BBC's content more available to online audiences in Asia and Australasia.
- Learned front-end web performance, and translated the technical jargon into clear metrics for non-technical team-members such as product owners to assimilate. These metrics shaped the work which our agile team committed to.
- Architected and delivered a dashboard to measure the impact of our work (e.g. KPIs). The dashboard showed how the team was meeting our objectives.
- Delivered a continuous delivery pipeline to bring our team's average release time down to 3 hours from 3 days.

Full Stack Developer, Studio Skylab — December 2013–January 2017.

I worked as a full-stack engineer in a team of 4 people to develop a greenfield, B2B video platform. Companies such as British Swimming, Hasselblad and NFTS subscribed to the product.
- Communicated with stakeholders to gather their product's requirements and transformed these into technical solutions including: data storage/retrieval, REST APIs and an interactive web application.
- Introduced and led Test Driven Development workshops for the developers in the company.

Graduate Front End Developer, The Hut Group — July 2013–December 2013.

My first job out of university was with an e-commerce giant—The Hut Group. I worked in an agile team of 6 people to build online stores for Nintendo, MyProtein, LookFantastic and other high-profile online stores.

Education

AWS Certification — 2023

- AWS Certified DevOps Engineer - Professional (DOP-C01)

Manchester University, Advanced Computer Science specialising in Software Engineering, MSc. — 2017–2021.

- Graduated with 2:1.

Edge Hill University, Web Systems Development, BSc. — 2010–2013.

- Graduated with a 2:1

Barnsley 6th Form College — 2008–2010.

- A Level ICT (B)
- A Level English Language (B)

Skills

- Broad Leadership skills and experience including: emotional intelligence, situational leadership, having difficult conversations, change management, coaching / mentoring, influencing, strategising and planning.
- Modern approach to agile delivery. I can participate in, lead and introduce squad models to groups of people. Skilled at identifying and implementing change to teams' ways-of-working.
- Strong DevOps skills with deep understanding of complementary theories such as Lean Management, Constraint Theory, Accelerate DevOps metrics, CI/CD.
- Broad and deep knowledge of Cloud Infrastructure, Infrastructure as Code and Linux virtualisation. Examples include CDK, Terraform, Cloudformation, Ansible, Packer and creating "Golden Image" pipelines.
- Very experienced with containerisation & container orchestration. I am able to use these technologies as a consumer (e.g. Docker, OCI images) and as a provider (e.g. building platforms on Kubernetes, building and maintaining Kubernetes VMs).
- Strong full stack programming skills (NodeJS, Typescript, React, Vue, TDD/Jest, Git VCS).
- Interest in Lean Startup to manage product development.