

Benjamin Kelly

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Technical Interests

Cloud Engineering, Distributed Systems, Observability, Networking, Kubernetes, Infrastructure as Code, Reliability Engineering, Security & Cryptography, Scalable AI & Serverless Infrastructure

Skills

Languages: Go, Python, Java, Rust, C{++, #}, Bash, PowerShell, Terraform, SQL
Reliability Engineering: Observability (Prometheus, Grafana, Kusto, OpenTelemetry), Incident Response Management, Risk Reviews, Post-mortem Analysis
Cloud & Infrastructure: Azure, Kubernetes (AKS), AWS, GCP, Docker, Serverless (Azure Functions, AWS Lambda), GitOps, Helm, Infrastructure Automation, Multi-region / Sovereign Cloud deployments
Networking: Azure/cloud networking (CNI, Service Fabric), BGP/VXLAN, gRPC/Service Mesh, Load Balancing, network telemetry systems
Full-Stack: JavaScript/TypeScript (Node.js), HTML, CSS, Express, Flask
Privacy & Compliance: GDPR / Schrems II, Data Minimisation, Audit Automation, Privacy-by-Design principles.
Leadership: Technical Team Leadership, Reliability Reviews, Vendor & Contractor Guidance, Mentoring, Cross-functional Collaboration, Architecture & Design Governance
ML & LLM Engineering: Llama/GPT integration, PyTorch fine tuning, Retrieval-Augmented Generation, MCP tooling, Automated AI agents, Synthetic Data Training, Azure OpenAI, Copilot

Experience

Software Engineer II, Azure Core OneFleet Platform

Microsoft Ireland

February 2022 – October 2025

- Responsible for the architecture, design, and evolution of reliability-critical control-plane services supporting regulated public-sector and financial-services customers, including capacity planning, failure-domain modelling, and multi-region failover strategies.
- Worked closely with customer and internal engineering teams to prototype, validate, and productionise new features and systems, ensuring reliability, security, and compliance requirements were built in from early design through launch.
- Developed reusable Helm charts and Terraform/Bicep modules so product teams could onboard to shared Kubernetes and networking patterns with consistent guardrails.
- Designed and implemented observability and diagnostics frameworks (Prometheus, Grafana, Azure Monitor, Kusto) to support incident response, root cause analysis, and long-term reliability improvements across distributed systems.
- Partnered with networking, security, and privacy engineering to define patterns for secure, compliant service design across sovereign and commercial Azure regions while driving structured risk assessments.
- Mentored engineers on distributed-systems debugging, change control, and incident preparedness while managing project priorities with product and platform stakeholders.
- Implemented and maintained Kubernetes and Service Fabric environments, optimising orchestration, rollout velocity, and resource utilisation for high-throughput services.
- Delivered internal automation and AI-assisted tooling to reduce manual build, migration, and live-site toil, improving operational consistency and engineer effectiveness across Azure Core.
- Guided vendor and contract engineering teams contributing to shared platform components, ensuring code quality, alignment with engineering standards, and smooth integration into core systems.

Software Engineer II, Azure Privacy Engineering Centre of Excellence

Microsoft Ireland

March 2021 – February 2022

- Led design and delivery of privacy-focused, compliance-ready data processing systems supporting GDPR, Schrems II, and other regulatory needs.
- Embedded with cross-functional stakeholders (product, legal, privacy) to architect secure and compliance-focused cloud infrastructure tailored to customer regulatory environments.
- Provided technical leadership and guidance for regulatory and compliance initiatives (GDPR, Data Sovereignty, Secure Compute), collaborating with legal and policy teams to align engineering implementation with privacy standards.
- Helped architect and launch the EU Digital COVID Certificates platform on Azure, ensuring robust security, privacy, and compliance.

Software Engineer II, Azure Special Capabilities, Infrastructure & Innovation (ASCII)

Microsoft Ireland

June 2020 – March 2021

- Supported large-scale AI and ML projects, developing robust GPU-accelerated infrastructure for data training and inference in regulated environments.
- Collaborated with Azure networking and ML infrastructure teams to optimise high-throughput data plane reliability.
- Delivered scalable synthetic data pipelines and built-out infrastructure for secure, high-reliability cloud deployments.
- Developed an Apache NiFi Operator for Kubernetes, enabling seamless data integration in air-gapped and sovereign cloud environments.
- Partnered with AKS and product teams to ensure consistent, reliable service deployment in sovereign and mission-critical settings.
- Served as point of contact for reliability and performance across sovereign infrastructure projects, influencing architectural decisions and rollout strategies across multiple teams.

Software Engineer II, E2E Engineering (Azure CAT)

Microsoft Ireland

October 2019 – May 2020

- Drove high-reliability improvements for Azure's strategic customers, supporting production launches and rapid iteration of new cloud features.
- Built a GitOps-style Kubernetes deployment & application management system, improving release quality and operational consistency.
- Collaborated closely with customer engineering teams and Azure stakeholders to resolve high-impact technical challenges.

Software Engineer, Dun & Bradstreet

Dublin, Ireland

August 2018 – October 2019

- Built and maintained large-scale batch and streaming data-processing pipelines (Apache Spark / Hadoop / Spring Batch) for enterprise analytics and risk-scoring workloads.
- Development of scalable data reporting pipelines, ensuring data quality and timely delivery for global financial clients.

Patents

Systems And Methods For Manufacturing Adaptive Peripheral Devices: US-20230401344-A1, US-20230401362-A1

Education

University College Dublin - BSc Computer Science, 2018

GPA (average): 3.16 (Equivalent to 2:1)

Achievements: Received the UCD's Widening Participation Scholarship in 2014

Demonstrator: Discrete Mathematics for Computer Science, Networks and Internet Systems

Extras: Server Administrator for Netsoc (Sept 2014 – Sept 2018), Instructor for CS Sparks 2017

Thesis: "Blockchain based e-ticketing system for road traffic offences" – Supervisor: Dr. Rem Collier