

Kyle Haggarty

Senior AI & Software Engineer | Agentic AI, Risk Backend Systems & Cloud Infrastructure

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Senior AI & Software Engineer with 11+ years' experience building high-performance backend systems and cloud infrastructure, most recently specializing in agentic AI development, evaluation frameworks, and governed production delivery within financial services. Java/JVM, Python, and C# with a deep focus on Market Risk calculations, intraday data pipelines, and cloud-native infrastructure (AWS/Azure/GCP). Proven ability to architect scalable automation tools, optimize complex risk engines, and lead technical migrations from legacy systems to modern cloud environments. Led a cross-functional team of 5+ engineers and security/compliance stakeholders to deliver GCP and Azure Privileged Access Management (PAM) and Just-In-Time (JIT) access for Platform SRE teams globally, closing a firm-wide cloud security audit mandate, applying a curated and tuned agentic development workflow across the full delivery lifecycle.

TECHNICAL EXPERIENCE

Senior Software Engineer / Tech Lead | JPMorgan Chase & Co.

August 2022 – Present | London, United Kingdom

- **Led GCP & Azure PAM/JIT Delivery:** Led a cross-functional squad of 5+ engineers alongside security and compliance stakeholders to deliver GCP and Azure Privileged Access Management (PAM) and Just-In-Time (JIT) access for Platform SRE teams globally, closing a firm-wide cloud security audit requirement — using a curated, tuned agentic development workflow to accelerate design.
- **Pioneered Agentic Development Patterns:** Introduced and led the adoption of a modular skills, agents, and workflow-based governance framework across the organisation — now the central governance layer for a 300-person engineering organisation, with direct workflow adoption across a ~25-person team and demo sessions for the wider Cloud Infrastructure org.
- **Engineered AI Reliability & Efficiency:** Implemented guardrails, automated evaluations (evals), and progressive disclosure patterns to minimize hallucinations, optimize token usage, and ensure deterministic results in automated workflows.
- **Context Engineering:** Designed reusable context files and modular context delivery patterns to improve model accuracy and reduce token overhead.
- **Implemented Identity & Access Systems:** Led the technical implementation of Azure Privileged Access Management (PAM), integrating secure SRE support workflows for firm-wide Azure resources, escalating and resolving production defects directly with Microsoft Technical Account Managers (TAMs) to reach go-live.
- **Engineered Infrastructure-as-Code (IaC) Automation:** Architected a global AWS Region Enablement framework using Terraform and CloudFormation, cutting full region-enablement timelines from approximately 9 months to 2 months (a 72% reduction) and replacing hand-picked, per-environment dependency configuration with a single centrally managed definition.
- **Developed Multi-Cloud CLI Tooling:** Built a high-performance Go/Python CLI for JPMC's Private Cloud, adopted globally as the standard method for provisioning private cloud resources and replacing manual UI-driven workflows.
- **Automated Validation & Compliance:** Developed automated testing suites for AWS resource validation, ensuring real-time compliance and security posture across multi-cloud environments.
- **Technical Mentorship:** Acted as a technical lead for junior developers and apprentices, driving best practices in clean architecture, TDD, and automated CI/CD pipelines.

Software Engineer (Equities Market Risk) | JPMorgan Chase & Co.

July 2021 – August 2022 | Glasgow, United Kingdom

- **Modernised Legacy Market Risk Platform:** Rescued and modernised a stale C#.NET market risk platform that Equities trading desks continued to rely on daily — resolving production defects, onboarding new portfolios, and migrating the platform off physical servers onto AWS (compute, storage, and UI hosting).
- **Independent Risk Verification:** Served all Equities trading desks, calculating projected market risk across numerous client portfolios; independently verified and challenged Greeks, VaR, exposure, and correlation calculations on a near-weekly basis — work typically owned by middle office and quantitative teams.
- **API & Backend Development:** Designed and implemented RESTful APIs for core risk calculation services, ensuring high availability and seamless integration with front-office dashboards.
- **Level 3 Production Support:** Resolved 200–300 support tickets over the course of the role, maintaining continuity of critical intraday risk reporting.

Technical Architect & Co-Founder | Stealth Startup (Asset Management)

January 2020 – June 2021

- **Architected Green Investment Platform:** Designed the high-level architecture and MVP for a sustainability-focused digital asset management platform, centred on secure portfolio management and investor reporting.
- **Infrastructure Design:** Defined a cloud-native architecture comprising a web dashboard, backend APIs, transactional data store, historical trade data layer, and isolated compute for portfolio valuation, risk, and financial modelling.
- **Technical Foundations:** Established the technical foundation for scalable fund management workflows supporting high-net-worth investors and sustainability-first investment products.

Career Break

April 2019 – January 2020

- Extended personal travel through Germany, Thailand, and South Korea.

Backend Developer (Market Risk) | Barclays Investment Bank

February 2016 – April 2019 | London, United Kingdom

- **RESTful Service Development:** Developed .NET backend services for CCAR risk reporting, ensuring strict adherence to regulatory data standards.
- **Big Data Integration:** Built data ingestion and retrieval layers between the core Risk Engine and a Hadoop big data cluster, supporting intraday risk runs across all major asset classes (ex-Equities) across numerous curves, scenarios, and timelines.
- **Deployment Automation Tooling:** Built a C#-based deployment tool that replaced hand-picked, per-environment dependency configuration with a single declarative definition — deployable and re-runnable across 60+ distinct environments.
- **Stress-Testing Risk Platform:** Contributed to a spin-off stress-testing risk platform modelling 2008-crash-style market scenarios with large market data swings, extending the firm's stress-testing risk calculation capability.

Graduate Software Developer | Barclays Investment Bank

September 2014 – February 2016 | London, United Kingdom

- **Trade Data Integrity:** Enriched downstream trade data within a databases team, appending fields missing from upstream systems to close a gap that could otherwise allow unauthorised trading to go undetected.
- **Java/Maven Implementation:** Developed and implemented Kerberos-based authentication within Java/Maven applications, ensuring enterprise-grade security standards.
- **Trade Validation Engine:** Authored SQL procedures for validating high-volume trade data, significantly reducing booking discrepancies.

TECHNICAL SKILLS

- **Languages:** Java (JVM), Python, C#, Go, SQL, KQL.

- **Backend & Data: Data-intensive systems**, Distributed Systems, RESTful APIs, Auth, Message Queues (Kafka/Flink concepts), TDD/BDD
- **Cloud & DevOps**: AWS (IAM, Architecture, Step Functions, Lambdas, EKS, EventBridge), Azure (IAM, Architecture, EntraID, EventHub), GCP, Docker, Kubernetes, Terraform, Jenkins, GitHub, Bitbucket.
- **Platform Operations**: Private cloud application deployments, ADR reviews and governance process, load balancer setup and lifecycle management, authentication/authorization architecture and access management, cross-system data contracting, production systems ownership (L3 support/on-call), auditable controls and compliance-by-design.
- **Domain Knowledge**: Market Risk Calculation, CCAR Reporting, P&L Attribution, Intraday Data Pipelines.

EDUCATION & CERTIFICATIONS

- **BSc Computer Science** | University of Strathclyde
- **AWS Certified Cloud Practitioner**
- **Agile Scrum Master (Level 2)**
- **Winner**: Barclays OpenMinds Hackathon