



SAMUEL B.

LEAD AI ENGINEER

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SUMMARY

Lead AI Engineer with 8+ years of experience **designing, building, and scaling** production-grade data and AI platforms across fintech, e-commerce, and telecom. Deep expertise in Azure-centric data and AI stacks (**Databricks, Delta Lake, Azure Data Factory, Airflow, Spark/Scala, Python, SQL**), combined with hands-on delivery of **GenAI** and agentic AI systems (**RAG, LightRAG, LLMs**) in regulated enterprise environments.

Proven track record delivering end-to-end AI platforms at scale, processing **5TB+ of data** and supporting **2M+ transactions** per day, **preventing €1.2M+ in annual fraud losses** and enabling customers to launch **AI-driven analytics** and financial services generating **€1.4M+ in revenue**. Designed and operated an **Agentic AI Data Platform** that ingests large-scale enterprise data via ETL pipelines, transforms it into analytics-ready datasets, and delivers dashboards, insights, and **AI-powered recommendations** embedded directly into business workflows.

Core strengths:

Agentic AI • RAG • LLM Integration • Python • LangChain • LlamaIndex • TensorFlow • Vector Databases • Airflow • Databricks • Spark / Scala • Azure OpenAI • Vertex AI • MLflow / MLOps • Azure • Reliability & Observability

WORK EXPERIENCE

Lead AI Engineer

07/2022 - Present

Nationale-Nederlanden (Fintech) - Agentic AI Fraud Detection / KYC Platform / AI Data Insights Platform

Led the **design, implementation, and scaling** of production-grade AI platforms used by banking and insurance customers in regulated environments.

- **Designed and delivered an Agentic AI Fraud Detection and KYC Platform** on Microsoft Azure, combining Azure Databricks, Delta Lake, Azure Data Factory, Apache Airflow, Python, SQL, Spark, and Scala to support real-time and batch processing in regulated financial environments.
- **Implemented LLM-powered, agentic AI workflows** using **RAG, embeddings, and vector databases**, integrated with **TensorFlow** and **Vertex AI**, enabling automated fraud detection, KYC decision support, and AI-driven insight generation over large proprietary datasets.
- Delivered **real-time transaction analysis** and case scoring for **2M+ financial transactions per day**, achieving sub-300ms P95 inference latency for live scoring paths and maintaining **99.99% availability** for mission-critical workloads.
- Built and scaled an **AI Data Insights Platform** ingesting and processing **5TB+ of enterprise data**, using ETL pipelines to transform raw data into analytics-ready datasets, dashboards, and **AI-powered recommendations** consumed by large enterprise customers.
- Enabled 200+ enterprise clients to generate **AI-generated insights** across **fraud operations, risk, and compliance workflows**, contributing to **€1.4M in revenue generation** through improved risk management, operational efficiency, and new AI-enabled service offerings.
- Orchestrated data, ML, and LLM pipelines with **Apache Airflow**, including **model retraining, evaluation, drift detection, monitoring, and data quality checks**, ensuring reproducibility and operational confidence.
- Designed low-latency, scalable data and AI architectures with strong guarantees on reliability, observability, data quality, and security, aligned with **ISO 27001 controls and NIS2 requirements**, and enforced via CI/CD-integrated **SAST/DAST** and dependency scanning (**Snyk, SonarQube**).
- Applied **FinOps-driven optimizations** across Azure compute, storage, and AI services, **reducing cloud and AI platform costs by €10K+** annually while sustaining performance and reliability targets.
- Collaborated with product owners, data scientists, compliance teams, and senior stakeholders to translate regulatory and business constraints into production-ready AI systems.

Tech Stack: Python, Java, Spark, Scala, TensorFlow, LangChain, LlamaIndex, Vector DBs, Airflow, Databricks, Azure OpenAI, Vertex AI, Azure AI Foundry, Terraform, Kubernetes (AKS/EKS), GitHub Actions, Snyk, Sonarqube, Grafana.

Senior Software Engineer

08/2020 - 07/2022

Carlsberg (E-Commerce)

- Contributed to the development of a new international e-commerce platform serving over 1M Users.
- Led the architecture and development of distributed backend services and secure APIs for a high-traffic global e-commerce platform.
- **Designed and deployed cloud-native microservices** with full CI/CD automation, ensuring 24/7 availability, high performance, and seamless customer experiences across international markets.
- **Developed 10+ micro-services in Python and Java** to **manage order processing, stock updates, checkout flows, and payment integrations (Stripe)**.
- Designed and implemented **Databricks ETL pipelines (PySpark, Delta)** ingesting **1–2 TB/month** from Kafka, APIs, and SQL sources to power analytics, ML workflows, and **real-time operational dashboards**.
- Re-architected 100+ CI/CD pipeline with GitHub Actions, integrating custom Terraform plans, testing stages, linting, and SAST/DAST - reduced deployment failures by 90%.

- Containerized all backend services using Docker, deploying on Kubernetes with **Istio**, achieving 99.98% SLA for 10K+ monthly users.
- **Led integration of observability stack (Grafana + Prometheus)**, identifying performance bottlenecks, reducing page load latency by 35%.
- **Developed automated testing pipelines** using pytest, Postman, and JMeter, enabling zero-downtime blue/green deployments.
- **Enforced encryption at rest and in transit**, IAM least privilege policies, and token expiration policies, reducing compliance risk across all cloud accounts.
- Refactored Terraform modules to enforce tagging, naming conventions, and secret management policies across AWS and Azure.
- Implemented **automated vulnerability scanning** using Snyk and SonarQube, identifying and remediating critical issues such as SSRF and misconfigurations

Tech Stack: Azure, AWS, Docker, Kubernetes, Kafka, Terraform, Github Actions, Jenkins, Python, Powershell, MySQL, Oracle, PowerBI, Grafana, Prometheus, Bash, Sonarqube, Snyk

Software Engineer

Truphone (Telco - E-Sim Services)

07/2017 - 08/2020

Contributed to the cloud-native transformation of global eSIM and GSM platforms serving 1M+ users.

- Led the migration of eSIM management and provisioning systems from **legacy infrastructure to cloud-native**, microservices-based platforms on Azure and AWS, improving overall platform resilience and enabling 99.95% service uptime.
- Supported the onboarding of 50k+ new users annually across multiple regions by designing scalable backend and data architectures for global eSIM provisioning.
- **Rewrote core provisioning, billing, and account services in C# (.NET Core)**, achieving a ~70% reduction in API response latency and significantly improving activation and billing workflows.
- **Designed and implemented 10+ REST APIs** for SIM activation, account synchronization, billing, and network provisioning, consumed by mobile applications and external partner systems.
- **Built multi-region infrastructure using reusable Terraform modules and GitOps workflows (ArgoCD)**, enabling consistent, automated deployments across environments and regions.
- **Implemented CI/CD pipelines with GitHub Actions**, automating build, testing, security scanning, and deployments, reducing manual release effort and deployment errors across multi-cloud environments.
- **Designed multi-tenant data storage models** using MySQL and Cosmos DB, strengthening data isolation, tenant-level encryption, and access controls in line with telecom security requirements.
- **Developed data ingestion and synchronization services** to consolidate customer, billing, and provisioning data from multiple systems into centralized, analytics-ready stores.
- Implemented monitoring, alerting, and metrics pipelines using Prometheus, Grafana, improving incident detection and reducing mean time to resolution (MTTR).
- Integrated security and compliance controls including Fortify and OWASP ZAP scans, SSL/TLS enforcement, and SOC2-compliant logging frameworks, reducing vulnerability exposure and audit findings.
- Worked closely with data engineers, security, and platform teams to ensure high availability, reliable data flows, and operational stability for production telecom systems used globally.

Tech Stack: Azure, AWS, Docker, Kubernetes, Kafka, Terraform, Github Actions, Jenkins, Python, Powershell, MySQL, Oracle, PowerBI, Grafana, Prometheus, Datadog, Bash, Sonarqube, Snyk

EDUCATION

2017

Bachelor Computer Science
@Iscte - Instituto Universitário de Lisboa

CERTIFICATIONS

- Azure AI Engineer Associate (AI-102)
- Microsoft Certified: DevOps Engineer Expert
- AWS Certified DevOps Engineer
- Kubernetes Administrator Certification (CKA)
- Hashicorp Terraform Associate
- Prometheus Certified Associate

LANGUAGES

- English: C1
- Portuguese: C2
- Italian: B2
- Spanish: B1