

## Contact Information

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AI Assistant: [Click here to chat](#)

Location: London, UK

Nationality: British

## Summary

Experienced hands-on Architect offering strategic solutions and capability development. With experience, expertise, and a deep understanding of the financial, government and startup sectors. My main objective has always been to deliver real solutions that achieve impactful results. Focused on Integrating GenAI applications, automations, alignment, and guardrails while extending current enterprise data pipelines for RAG (Retrieval Augmentation & Generation) by embeddings the data in vector DBs & also connecting to existing API capabilities.

## Skills

- **Architecture** TOGAF, Data, ML, AI, Cloud, Applications, IoT, Blockchain, Security, HLD/LLD
- **General** Strategy, Stakeholder Management, Procurement, Workshops & Mentoring
- **Patterns** EDA, Event sourcing, CQRS, REST/GraphQL API's, RAG
- **Cloud** AWS, GCP, Azure, Colab, Hugging Face, RunPod, Railway & Render
- **DevSecFinOps** IaC, PaaS, CI/CD, SEIM, Monitoring (Observability & Control) Automation.
- **Containerization** Docker & AKS (Azure Kubernetes Service), EKS, CloudRun
- **Application** SDLC, Web, Mobile, Assistants, Agile Methodologies, Migration, Integration
- **Data** Migration, ETL, ELT, MLFlow, Pipelines, DWH, Lakehouse, Curation, DG & DG
- **CRM** Salesforce, HubSpot
- **Databases** SQL, NOSQL, Datalake, Lakehouse, Graph & Vector DBs
- **IAM** (Identity and Access Management), Active Directory, B2B, B2C, RBAC & ABAC
- **Security** Zero Trust, Encryption (In Motion, At Rest), PIM/PAM
- **Programming** Python, JavaScript, Java, Terraform, CLI
- **AI Assistants** Azure Promptflow, Duet, Co-Pilot, Databricks Assistant, OpenAI Assistant API
- **GenAI** Agents, Frameworks, Alignment, Guardrails, Prompt Engineering & Fine-tuning LLMs
- **Models** GPT-3.5-Turbo, GPT-4-Turbo, GPT-4-Vision, Text-Davinci-003, TTS, Wisper, DALL.E 3, Palm 2, Claude 2, Llama 2, Mistral, Zephyr, Orca 2, Gemini Pro, Mixtral 8x7b
- **Vector DB's** Pinecone, Qdrant, Chroma, MongoDB Atlas, Supabase

## Professional Experience

**GenAI Architect & Engineer – Sensational.Space – Real World AI (06/2023 – Present) 6mo**

- *Designed and built a financial analysis and scoring AI assistant for an investment office. Based on GPT-4 API and finetuned Llama 2 GenAI models. Used RAG (Retrieval Augmentation & Retrieval), embedding, Vector DB's, model fine-tuning, alignment, safety guardrails & integration into existing IT infrastructures, Data Pipelines & APIs to implement the final solution, running across GCP, AWS & Azure.*

#### **Lead Cloud, Data & Solution Architect - Howden Group (08/2020 – 08/2023) 3yr 1mo**

- **Cloud Migration Leadership:** *Designed & implemented the successful migration of the group's applications from AWS to Microsoft Azure, focusing on optimised containerisation and performance. Modernised a lot of the applications using serverless & lo-code Power Platform*
- **Security Infrastructure Upgrade:** *Implemented OAuth and Azure Active Directory, enhancing authentication and access management systems with modern security standards.*
- **Infrastructure Automation and Management:** *Established an automated infrastructure using Infrastructure as Code and CI/CD practices, with advanced system monitoring and security integration.*
- **Data Management Overhaul:** *Transformed the broker marketplace platform from traditional data warehousing to a modern Lakehouse architecture, using Azure Synapse and Databricks, improving collaboration across data teams. Used Power BI, Power Apps & Power Pages to make data available to business analytics teams.*
- **CRM Systems Integration:** *Integrated HubSpot and Salesforce CRM systems with our marketplace platform, streamlining business operations and customer relationship management.*
- **Compliance and Security Enhancement:** *Developed compliance protocols in line with FCA guidelines and advanced the platform's security posture towards a Zero Trust architecture.*
- **Lloyd's Market System Integration:** *Leveraged Lloyd's market experience to integrate key systems, enhancing platform capabilities.*
- **AI Advocacy and Workshops:** *Led AI workshops, promoting a culture of continuous learning and innovation in AI technologies like Co-Pilot.*

#### **Earlier Roles**

##### **Chatbot Architect - United Nations (08/2020 - 11/2020) 5mos**

- *Pioneered CCAI (Contact Centre AI) solution improving IT support response times for UN members worldwide through real-time analytics integration. Dialogflow, GCP, BigQuery*

##### **Lead AI Architect - Capita PLC (08/2018 - 01/2020) 1yr 6mos**

- *Orchestrated digital transformation centralising 20+ AI companies onto a cohesive multi-cloud data platform, enabling collaboration. Azure, Redshift, Databricks, MLFlow*
- *Designed and implemented a central data platform for the group. This includes data pipelines, MLFlow, curation & governance.*

##### **Lead Enterprise Architect – Homeoffice UK Gov (03/2016 - 01/2018) 1yr 11mos**

- *Led modernisation programs transitioning systems to cloud and implementing central data platform, improving government services & moving UK Gov to AWS public cloud.*
- *Designed and implemented the CDP the common data platform used by all Home office departments.*

##### **Lead Solution Architect – Metropolitan Police (06/2014 - 10/2015) 1yr 4mos**

- Guided strategic programs to enhance infrastructure security, achieve automation, pioneer POLE (People, Objects, Location, Events) data model and implement central data platform. Body worn camera, facial recognition & Tablets for crime documentation.

*Solution Architect – RGA Reinsurance Group of America (05/2010 - 06/2014) 4yr 2mos*

- Designed & Implement AURA (Automated Underwriting Application). Automated Electronic Health Records NLP platform to streamline actuarial audits and enhance data accuracy and accessibility.

*Architect/Developer - BBC (12/2009 - 03/2010) 4mos*

- Spearheaded digitisation of the world's largest television archive to enable real-time access and significantly enhance availability of content.

*Architect/Developer - Deloitte (06/2009 - 12/2009) 7mos*

- Engineered an advanced royalty platform to revolutionise financial operations and royalty distributions for the Phonographic industry.

*Developer – Dun & Bradstreet (10/2005 - 01/2009) 3yr 3mos*

- Instrumental in developing a comprehensive Due Diligence Platform to enable more informed business decisions through detailed company analysis.

*Lead Developer – RGA Reinsurance Group of America (07/2004 - 06/2005) 1yr*

## Technology

<b>Architecture</b>	HLD, LLD, Agile, Enterprise, Solutions, Technical, Infrastructure, Data, ML/AI, GenAI, IAM, Security, Microservices, Docker, Kubernetes, API-Gateway, gRPC, Parquet, JSON, YAML, XML, Protobuf
<b>IAM &amp; Security</b>	SSO, AUTH, RBAC, REST, Zero Trust, Encryption, Ping Identity, Azure AD B2C, PAM, RBAC/ABAC, Prompt Injection/Jail-Breaking, Anomaly Detection, AI, Firewalls, Guardrails, OAuth, OIDC, SAML, JWT, HashiCorp, KeyVault, CyberArk, Threat-Modelling, Penetration Testing, SailPoint
<b>Cloud, DevSecOps</b>	GCP, AWS, Azure, Render, Railway, Colab, Hybrid(IaaS, PaaS, SaaS, AlaaS, AKS, EKS, Cloud Run, GitHub, JFrog, CloudFormation, ADO, VPC, IaC(Terraform), CI/CD, FinOps, ELT, EL+T(Live Tables), Airflow, Airbyte, MLFlow, Observability & Control, AWS Lambda, Amazon S3, AWS CloudTrail, AWS Config, AWS CloudWatch, AWS Step Functions, Azure Functions, Azure Logic Apps, Azure Event Grid, Azure Monitor, Azure Active Directory, Google Cloud Functions, Google Cloud, Pub/Sub, CDK, HA/DR, Monitoring, Prometheus, Grafana, App Insight, Splunk, Datadog, Ansible, Puppet, Chef, Salt Stack Monitoring
<b>Data Curation &amp; Governance</b>	Kafka, EventHub, Event-Sourcing, CQRS, Databricks, PySpark, Azure Datalake Gen 2, Blob Storage, Cloud Storage, Synapse, Dynamics 365, BigQuery, Cosmos DB, DBT, Great Expectations, Purview, Collibra, Snowflake, Redshift, Neo4j, VectorDB, Provenance, Lineage, DQ, DG, Data Vault, Star Schema, Curation(Unity Catalog), Live Tables, GDPR, PCI DSS, Avro, ORC, Apache NiFi, Apache Atlas, Apache Kafka, Apache Hadoop, Hive, HBase, Google Cloud Dataprep, AWS Glue, MuleSoft, AWS Data Pipeline, Datawarehouse, Lakehouse, MDM, R Shiny, Qlik, Looker, ELK
<b>CRM</b>	Salesforce, Novidea, HubSpot
<b>AI-Models</b>	GPT-3.5-Turbo, GPT-4-Turbo, GPT-4-Vision, Text-Davinci-003, TTS, Wisper, DALL.E 3, Palm 2, Claude 2, Llama 2, Mistral, Zephyr, Orca 2, Mixtral 8x7b
<b>AI Frameworks &amp; Patterns</b>	SOTA, Dialogflow, Azure Cognitive Service, Langchain, Langflow, Flowise, Chainlit, LangSmith, LangForge, LangchainHub, LlamaIndex, Vertex AI, Bedrock, Hugging face, Functions Calling (OpenAI), Prompt Engineering, RAG, ReAct, MRKL, Agents, Chunking/Splitting, Embeddings, Chatbots
<b>Blockchain</b>	Identity, Bitcoin, LightningNetwork, Web3, Ethereum, Solidity
<b>API's, Programming &amp; Frameworks</b>	Python, PyTorch, TensorFlow, Java, JavaScript, Go, HTML, Node, React, Spark, REST, Functions, Kafka, EventHub's, Event Grid, Pub Sub, GraphQL, APIM, Fabric, Apigee, Angular, Vue.js, Express.js, Spring, Spring Boot, .SOLID, WebAPI, ASP.NET, Flask, Django, gRPC, Protocol MediatR, NoSQL(MongoDB, Couchbase, Cassandra), SQL(MySQL, PostgreSQL, SQL Server), Time-series(Influx DB, Timescale DB), Graph(Arango DB, Tiger Graph), BAIN, NewSQL(Cockroach DB, Google Spanner), OpenAPI, Swagger, Elasticsearch, Logstash, Kibana (ELK Stack), Apache Solr, Open Tracing, Open Telemetry Buffers, Thrift, Apache Avro, RabbitMQ, MQTT, Jira, Confluence, visual Studio
<b>IoT</b>	Raspberry PI, ESP32, Arduino, TinyML, LoraWAN, Smart Meters, Swarm.Space Satellites