

Angel Aytov

AI Automation Architect / Principal Engineer

Production AI systems that hold up under real-world load.

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SUMMARY

Angel builds AI and data infrastructure that goes beyond prototypes into regulated, observable production systems. Over 15 years across FinTech, HealthTech, and Automotive (Mercedes-Benz, Toyota, Credit Suisse, Metapack), with a current focus on agentic AI: GraphRAG pipelines, multi-agent reasoning, real-time voice interfaces, and the observability layer that makes them auditable. Based in Dublin, open to remote or hybrid engagements across Europe.

EXPERTISE

- GraphRAG and hybrid retrieval: document-to-knowledge-graph pipelines (Neo4j, BM25 + embeddings + graph traversal, cross-encoder reranking)
- Multi-agent system design with memory architecture (short-term, long-term vector, episodic retrieval), evaluated via RAGAS
- AI observability and governance: OTEL Collector, Langfuse tracing, PII redaction, LLM guardrails, HIPAA/GDPR compliance
- Real-time AI APIs: FastAPI gateways with SSE/WebSockets, WebRTC voice pipelines (Whisper STT + ElevenLabs TTS)
- AWS cloud architecture: EKS, Lambda, ECS, RDS/Aurora, Step Functions, EventBridge, DataSync, DMS
- Microservices at scale: Spring Boot, Kubernetes/Helm, Terraform, CI/CD pipelines
- Security and auth: OAuth2/OIDC, RBAC, JWT, OpenID Connect

NOTABLE WORK

AI Expert / AI Automation Architect (2023–present, HealthTech): Building clinical research and patient decision support workflows. Delivered: a GraphRAG platform with hybrid retrieval and RAGAS evaluation; autonomous research agents for medical literature and clinical trial discovery; a real-time FastAPI gateway with WebRTC voice pipeline; full observability stack (OTEL, Langfuse) with PII redaction and sandbox validation before production exposure.

DEMICON / Mercedes-Benz (2022–2024): Senior AWS Cloud Engineer on the Mercedes-Benz automotive account. Built custom guardrails and monitoring using Node.js, Selenium, Lambda, Step Functions, and Grafana. Migrated Terragrunt to Terraform Enterprise. Configured GitLab CI/CD pipelines and automated scaling (EC2 ASG, ECS, RDS/Aurora).

Y TREE, FinTech (2021–2022): Led implementation of a new ALM core module for financial life intelligence. Deployed microservices on AWS EKS with Kubernetes/Helm. Prototyped in Java/Kotlin (Spring Boot) and TypeScript (Express/Node.js).

Toyota Connected Europe (2021): Designed and built microservices for the user subscription activation flow using Spring Boot, Spring WebFlux, Java 11, MongoDB, and Kong API Gateway. Built a shared security module (OpenID Connect + JWT) integrated across all production components.

Credit Suisse (2020–2021): Lead Full Stack Engineer on an investment wealth management platform. Contributed to TradeNet and RM Plus financial data feeds. Stack: Angular, Java, Spring Boot, Oracle RDBMS.

Metapack Group, Engineering Tech Lead (2019): Architected microservices for a delivery management platform (e-commerce) using Spring Boot, AWS Lambda, and Node.js. Automated infrastructure with Terraform and owned CI/CD pipelines.

Smart Wealth AG, Lead Engineer (2017-2019, FinTech): Led a team building a robo-advisory portfolio management platform in Zurich. Designed the architecture using DDD and Attribute-Driven Design, implemented with Java/Spring Boot and Angular, deployed on AWS with CI/CD via CloudBees and Docker.

Trading 212, Senior Engineer (2009-2010): Migrated the trading engine's database model to a Domain-Driven Design architecture for the forex trading platform (trading212.com). SQL tuning, stored procedures, and ETL.

TECH STACK

Languages: Python, Java/Kotlin, TypeScript/JavaScript, Go, Node.js

AI/ML: LangChain/LangGraph, AWS Bedrock, Neo4j, vector databases, Langfuse, RAGAS, Whisper, ElevenLabs, Kubeflow

Cloud: AWS (EKS, Lambda, ECS, RDS/Aurora, Step Functions, Bedrock, DataSync), Kubernetes, Helm, Terraform

Backend: FastAPI, Spring Boot, Express/Node.js, Hibernate, J2EE

Databases: PostgreSQL, MongoDB, Oracle RDBMS, MySQL

Observability: OpenTelemetry, Langfuse, Grafana, DataDog

BACKGROUND

MSc Software Technologies, Sofia University St. Kliment Ohridski (2010–2011).

Certifications: Sun Certified Java Programmer (Java 6), Oracle Java SE 11 Programmer (1Z0-815), Veracode Application Security Fundamentals, Introduction to Vector Indexes and Unstructured Data.

Languages: German (B1, Goethe Institut), English (proficient), Bulgarian (native).

Available now. Open to: AI Automation Architect, Principal Engineer, MLOps Engineer, Data Engineer, AWS Architect roles. Remote or hybrid across Europe.