

# Luca Romagnoli

Senior Software Engineer – AI Systems, Distributed Backend, LLM Infrastructure

## CONTACT

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## SUMMARY

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Senior Software Engineer specialising in distributed backend systems and AI-powered platforms. Experienced in Python, Go and TypeScript with a recent focus on LLM infrastructure, multi-agent architectures, and developer automation systems. Currently working on agentic AI frameworks and orchestration systems for production AI agents.

## EXPERIENCE

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### NearForm

#### Senior Software Engineer 2025 – Present

- Contributing to the open-source Agents-at-Scale ARK framework for building production AI agents.
- Designing multi-agent orchestration workflows and agent-to-agent (A2A) communication systems.
- Building backend services and tooling using Python, Go and TypeScript.
- Integrating LLM observability and tracing using Langfuse.
- Developing agent tooling and integrations using Claude SDK and modern LLM APIs.
- Working with Model Context Protocol (MCP) integrations for tool-enabled AI agents.

### Deliveroo

#### Senior Software Engineer December 2024 – 2025

- Built automation systems using LLM workflows to enhance developer productivity.
- Led migration of a high-throughput backend service from Ruby on Rails to Golang.
- Implemented infrastructure as code using Terraform.
- Improved service observability using DataDog and Sentry.

### Citi

#### Senior Software Engineer (Contract) October 2023 – July 2024

- Developed proof-of-concept systems for certifying internal IT solutions using Python FastAPI.
- Built automation tools generating PowerPoint and Word reports programmatically.
- Implemented automated screen-capture scraping pipelines.

### Siemens

#### Senior Software Engineer (Contract) March 2023 – September 2023

- Migrated legacy services to event-driven AWS Lambda architecture.
- Built distributed file-processing pipelines.
- Rewrote services from JavaScript to Python.

### Zaizi (National Archives)

#### Senior Software Engineer (Contract) November 2022 – February 2023

- Developed Django backend integrated with Keycloak authentication.

- Built Docker images and deployed services to AWS ECS.

## Wayfair

**Senior Software Engineer (Contract)** March 2022 – October 2022

- Developed internal logistics and order management tools.
- Implemented asynchronous processing pipelines using Kafka.

## Just Eat

**Senior Software Engineer** September 2021 – February 2022

- Automated AWS RDS infrastructure deployments.
- Improved infrastructure reliability using automation and monitoring.

## Sainsbury's

**Senior Software Engineer** January 2020 – August 2021

- Led migration from monolithic systems to microservices.
- Built ETL pipelines using Kafka and asynchronous Python services.

## Mavens of London

**Software Developer** February 2017 – December 2019

- Built large-scale web scraping systems.
- Contributed to machine learning and NLP projects.

## Empello

**Junior Developer** March 2015 – January 2017

- Built web scraping infrastructure monitoring mobile advertising networks.

## TECHNICAL SKILLS

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- **Languages:** Python, Go, TypeScript, Ruby, JavaScript, C++20, Java, SQL, Bash
- **Backend:** FastAPI, Flask, Django, Ruby on Rails, NodeJS, GraphQL, REST, gRPC
- **Infrastructure:** AWS (Lambda, ECS, EventBridge), Terraform, Docker, Kubernetes, Helm
- **Observability:** Langfuse, DataDog, Sentry
- **Practices:** Distributed systems, async programming, TDD, integration testing

## AI / LLM ENGINEERING

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- **LLM Providers:** OpenAI APIs, Anthropic Claude, Hugging Face
- **Architectures:** Multi-agent systems, tool-using agents, RAG pipelines, A2A communication, MCP integrations
- **Infrastructure:** Prompt orchestration, context window optimisation, token usage tracking, cost-aware orchestration
- **Structured Output:** JSON schema validation, Pydantic

## PROJECTS

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### MAGDA – Multi-Agent Generative DAW

AI-driven system translating natural language into DAW commands using a multi-agent architecture. [github.com/Conceptual-Machines/magda-core](https://github.com/Conceptual-Machines/magda-core)

### grammar-school

A multi-language framework for building tiny, LLM-friendly domain-specific languages (DSLs). [github.com/Conceptual-Machines/grammar-school](https://github.com/Conceptual-Machines/grammar-school)

### **grammar-school-python**

Python implementation and support for Grammar School DSL concepts. [github.com/Conceptual-Machines/grammar-school-python](https://github.com/Conceptual-Machines/grammar-school-python)

### **grammar-school-go**

Go implementation and support for Grammar School DSLs. [github.com/Conceptual-Machines/grammar-school-go](https://github.com/Conceptual-Machines/grammar-school-go)

### **DataService – Scalable data gathering library for Python**

[github.com/lucaromagnoli/dataservice](https://github.com/lucaromagnoli/dataservice)

## **EDUCATION**

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### **BSc Computer Science** – Open University

Final Year Project: Machine-learning fashion search engine using TensorFlow and Annoy. [github.com/lucaromagnoli/uni-final-project](https://github.com/lucaromagnoli/uni-final-project)

## **INTERESTS**

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### **Electronic Music Production**

Producing electronic music and building tools to bridge AI and digital audio workstations.