

Contact

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www.linkedin.com/in/fernando-r-7772aa95 (LinkedIn)
frueda.dev (Personal)

Top Skills

Amazon Web Services
Kubernetes
Generative AI

Languages

German (Elementary)
Catalan (Full Professional)
English (Professional Working)

Certifications

Deep Learning A-Z 2024: Neural Networks, AI & ChatGPT Prize
AWS Certified Solutions Architect – Associate

Fernando Rueda Oliva

CTO | Solutions Architect | AI, Cloud & Distributed Systems | AWS, Kubernetes and Quantum Engineering
Barcelona, Catalonia, Spain

Summary

CTO, Solutions Architect, and quantum software engineer with 15+ years of experience building cloud-native platforms, distributed systems, enterprise applications, and infrastructure solutions. I combine technology leadership with hands-on expertise in AWS, microservices, Kubernetes, Docker, DevOps, REST APIs, and real-time data platforms. I have worked in international, multidisciplinary engineering teams, including Volkswagen Digital:Lab in Berlin. I also build and operate AI systems, with practical experience running and optimising local LLMs using vLLM and Ollama; configuring model parameters, quantisation, context windows, and GPU-memory usage to make models fit available hardware. I design AI agents, system prompts, tools, Model Context Protocol (MCP) integrations, guardrails, API consumption budgets, long-term memory, and Retrieval-Augmented Generation (RAG) solutions. I hold a postgraduate degree in Quantum Engineering from UPC School — Universitat Politècnica de Catalunya. I am interested in technology leadership and international opportunities involving cloud platforms, AI-enabled products, distributed systems, and emerging quantum technologies.

Experience

Hexad Spain SL

9 years 9 months

CTO

February 2025 - Present (1 year 9 months)

Barcelona, Catalonia, Spain

Leading technology strategy, innovation, and high-performing teams to drive business growth and digital transformation.

Artificial Intelligence Engineer

January 2025 - Present (1 year 10 months)

Barcelona, Catalonia, Spain

Built AI-agent systems using local and API-based LLMs, including prompt design, tool calling, structured outputs, workflow orchestration, and guardrails.

Deployed and optimised local models with vLLM and Ollama, tuning quantisation, model parameters, GPU-memory usage, context length, batching, and KV cache to fit constrained hardware.

Developed custom tools and MCP integrations connecting agents to APIs, services, documents, and external knowledge sources.

Designed RAG systems and long-term-memory strategies to provide grounded, context-aware responses from private knowledge bases.

Implemented budget-aware API usage, model-consumption controls, validation, and observability to improve AI-system cost, safety, and reliability.

Solutions Architect

February 2017 - July 2025 (8 years 6 months)

Berlin

Software engineer at Digital:Lab Volkswagen in a multidisciplinary product team, using TDD and pair programming to achieve high code quality.

Built a real-time vehicle-tracking platform end to end: from configuring a Linux FPGA device transmitting telemetry, to processing, analyzing, and displaying the data.

Stack: Go, TypeScript, Kotlin, Angular, Ionic, Docker, Kubernetes, Helm, Concourse CI, microservices architecture, Netflix OSS, Cloud Foundry, AWS.

PROFILE SOFTWARE SERVICES

J2EE Developer

May 2015 - January 2017 (1 year 9 months)

Solutions Architect responsible for identifying and delivering optimal, innovative solutions within Profile's agile development centre.

Attended technology conferences, including Java Barcelona 2015 and Codemotion 2015, to evaluate emerging technologies and share knowledge with the wider engineering team.

Projects:

- * Mutua Madrileña Home Insurance: Developed a home-insurance management application, including both public-facing and private areas.
- * 20D Election Polling Station Finder: Developed an interactive application that allowed citizens to find their assigned polling station for the Spanish general election.
- * Profile Applications Microservices Architecture: Contributed to the definition and implementation of a microservices architecture for Profile applications.
- * L'Hospitalet City Council Job Board: Developed a job-board platform for L'Hospitalet City Council.

Technologies:

Spring MVC, Spring Boot, Spring Cloud, OAuth 2.0, Node.js, Sails.js, MongoDB, RESTful APIs, Amazon Web Services (AWS), Docker, microservices, Kubernetes, OpenShift, Angular, Bower, and Less.

Ways of Working:

Scrum and Management 3.0.

Indra Software Labs

Programmer Analyst

August 2014 - April 2015 (9 months)

Lleida

CTTI

- * Enhanced, maintained, and provided ongoing support for business applications.
- * Integrated and consumed web services using Spring WS, JAXB, and OAuth 2.0 authentication.
- * Worked with application frameworks including Spring WS, Spring Web, Hibernate, Struts, Apache Tiles, and Canigó.

Architecture Team

- * Developed a new electronic-invoice management application for public administrations.
- * Implemented electronic-invoice signing compliant with version 3.2 requirements for public-sector entities.
- * Integrated document-custody solutions using CM and Alfresco.
- * Implemented document distribution to multiple public-administration systems, including HUB AOC via FTP and FACE via web services.
- * Developed REST APIs, web-service interfaces, and web applications.

- * Worked with Hibernate JPA, Spring WS, Spring Web, Spring Security, Spring Core, Spring Scheduler, Apache CXF, JSF 2, CDI Beans, and RichFaces.
- * Used JBoss Application Server and Jenkins for continuous integration.
- * Provided ongoing application maintenance, user support, incident resolution, and request handling.

Tecnocom

J2ee Developer

March 2011 - August 2014 (3 years 6 months)

Greater Castellón de la Plana Area

2012–2014: Architecture and Mobility Team

- * Redesigned the front end for mobile devices.
- * Analysed, designed, and developed the complete online-banking front end for mobile devices for a major Catalan bank.
- * Analysed, designed, and developed a JSP-based interface to display charts using Flash or JavaScript.
- * Participated in a 24/7 on-call availability service for incident management and production support.

2011–2012: Banking Applications

- * Migrated several applications from host/mainframe systems to midrange platforms.
- * Delivered functional enhancements to banking-terminal operations used by branch staff to manage customer products and services for a major Catalan bank.

Technologies

Java, JSP, Absis architecture, Spring MVC, Spring Web Flow, EJBs, Oracle databases, servlets, web services, XML, CSS3, JavaScript, HTML, Struts 1, XSLT, jQuery, jQuery Mobile, Tomcat, WebLogic, Unix scripting, Maven, SVN, and Eclipse.

Grupo Gestimed

Network Administrator, Software Developer, and Technical Support Specialist

September 2009 - January 2010 (5 months)

Benidorm

- * Installed and configured the complete infrastructure required to deploy a Microsoft Exchange email server.

- * Designed and implemented a company VPN to provide secure remote connectivity.
- * Developed minor enhancements and maintenance updates for internal applications.

Education

UPC School (Universitat Politècnica de Catalunya)

Postgraduate Degree, Quantum engineering · (September 2021 - June 2022)

Universitat d'Alacant

Ingeniero técnico en informática de sistemas · (2006 - 2010)