



Adrian Arribas Lopera

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SUMMARY

My journey from industrial robotics and automation to AI-powered web systems provides me with a unique perspective on building intelligent solutions. With a foundation in **Mechatronics** from Germany and expertise in modern web technologies, I bridge the gap between hardware automation and software intelligence, consistently improving development efficiency by up to 40% through systematic automation and AI integration.

Core Expertise:

- **AI Systems Development:** Building intelligent solutions with **Python** and modern **AI** frameworks, specializing in automated systems and advanced integrations with a focus on scalability

- **Full Stack Engineering:** Expert in **Next.js 15** and modern architecture patterns, delivering high-performance applications with **React, Node.js**, and **TypeScript**

- **Cloud & Infrastructure:** Advanced experience with **AWS, Azure**, and containerization using **Docker**, optimizing deployment and scaling processes

- **Automation & Robotics:** Strong foundation in industrial automation, PLC programming, and mechatronic systems integration

Passionate about creating innovative solutions at the intersection of AI, automation, and web technologies, consistently delivering results that drive business value through technical excellence.

EXPERIENCE

AI Software Engineer | Creative Data SL

March 2025 - Present, Gijon, Spain

- Developed Power BI custom visuals by integrating large language models through Langgraph pipelines utilizing Python and FastAPI.
- Collaborated across international project teams to design AI solutions that align with current and future technology objectives, using cloud-based deployment and version control with GitHub.
- Evaluated and integrated advanced AI technologies to support ongoing and planned projects, applying expertise with LangGraph, FastAPI, and Python.

Software Engineer | Zertia

March 2024 - Present, Madrid, Spain

- Architected and implemented AI-driven web platforms with Python and multiple AI providers, achieving 40% improvement in system response efficiency.
- Built high-performance and scalable web applications using Next.js 15, React, Node.js, and TypeScript with an emphasis on modular architecture.
- Built robust API integrations for AI services using Python to support conversational and data processing features involving ChatGPT, Anthropic, and Mistral providers.
- Implemented comprehensive security systems including custom authentication, token management, and WAF integration.
- Built automated CI/CD workflows utilizing Docker and GitHub Actions to streamline software release processes.
- Configured and maintained AWS and Azure cloud environments, applying optimization techniques that led to an increase in platform performance by 30%.

Owner & Freelancer | Shelakh's Web Solutions

April 2022 - Present, Málaga, Spain

- Led the development of **SaaS applications** from concept to deployment, focusing on scalability and performance.
- Advised on automation strategies using Python scripting and API integrations, leading to measurable gains in client operational efficiency.
- Developed backend architectures with Node.js and Express.js to support high-traffic SaaS platforms, applying microservices and load balancing techniques.
- Configured high-availability cloud architecture using AWS and Azure, implementing redundancy and failover mechanisms to ensure continuous service delivery.

Full Stack Developer | Data Lean Makers

October 2022 - March 2024, Málaga, Andalusia, Spain · Remote

- Implemented scalable backend systems by applying Node.js and Express.js, enabling efficient handling of high-traffic user loads.
- Engineered responsive user interfaces utilizing React, Next.js, and Tailwind CSS, leading to a significant increase in user engagement.
- Engineered seamless data workflows by implementing and maintaining PostgreSQL, MySQL, and SQL Server environments to support application requirements.
- Leveraged Webpack and Vite.js to refine build processes, streamlining asset bundling for improved application load times.
- Introduced caching solutions using Redis and refined ORM configurations, streamlining data flow throughout application layers.

PROJECTS

Compliance Management Platform | Zertia

zertia.ai, March 2025 - Present

- Integrated robust authentication and authorization mechanisms using TypeScript and Next.js, ensuring alignment with industry compliance standards and secure data access.

- Designed and implemented role-based access control utilizing Python, FastAPI, and SQL models to enforce granular permissions for clients, auditors, and administrators within the compliance management platform.
- Designed and implemented an evidence management system utilizing Python, Node.js, and cloud storage solutions to enable clients to seamlessly upload and organize certification documentation with comprehensive version control.

AI Compliance ISO | Traze Platform

traze.ai/

- Built automated ISO audit processes utilizing Next.js 15 and TypeScript, integrating compliance verification directly into existing workflows.
- Led the deployment of compliant infrastructure by utilizing tRPC and Prisma ORM, applying security protocols aligned with ISO standards for sensitive data management across enterprise environments.
- Implemented a Python-based framework for automated compliance verification and reporting, integrating CI/CD pipelines for seamless workflow within ISO-aligned environments.
- Engineered an **AI-driven compliance** solution conforming to ISO standards, **enhancing data accuracy** by 25% and facilitating automated cross-departmental **audits across 50 enterprises**.
- Architected a scalable **AI compliance ISO** system that automated regulatory updates across multiple jurisdictions, **reducing compliance breaches by 40%** and maintaining real-time alignment with evolving standards.

LLM Prompt Engineering | Neosmart

- Built and maintained a prompt engineering platform, utilizing Python, LangChain, and integration with vector databases to streamline user workflows in AI tasks.
- Developed robust backend systems using Python, FastAPI, and Docker to process over 100,000 AI-driven interactions daily, enabling scalable deployment and supporting a 40% increase in revenue from AI-powered services within 6 months.
- Engineered advanced orchestration tools for LLM prompt engineering workflows, incorporating modular architectures that enabled rapid customization and seamless integration across diverse AI applications.

EDUCATION

Software Developer | 42

Málaga, Spain, 2023

Mechatronic, Mechatronics, Robotics, and Automation Engineering | Wilhelm-Maybach-Schule Stuttgart-Bad Cannstatt

February 2019

CERTIFICATIONS

Microsoft Certified: Azure Data Scientist Associate | Microsoft

2023

- Validated expertise in ML model implementation and data science workflows on Azure platform
- Demonstrated proficiency in large-scale data processing and AI solution deployment

Full Stack Web Developer | University of Helsinki

2022

- Comprehensive full-stack development certification focusing on modern web technologies
- Advanced training in React, Node.js, and database design principles

SKILLS

Programming & Frameworks: - Frontend: Next.js 15, React, TypeScript, JavaScript, Tailwind CSS - Backend: Python (AI/ML), Node.js, Express.js, FastAPI, Flask - Database & ORM: PostgreSQL, MongoDB, Redis, Prisma - AI/ML Tools: OpenAI, Anthropic, LangChain, Python AI Libraries

DevOps & Cloud: - Cloud Platforms: AWS, Azure, Cloudflare - Containerization: Docker, Kubernetes, Docker Compose - CI/CD: GitHub Actions, GitLab CI - Server: Nginx, DNS Management, WAF

Development Practices: - Architecture: Microservices, API Design, System Architecture - Methodologies: Agile, Scrum, Test-Driven Development - Version Control: Git, GitHub, GitLab - Security: Authentication Systems, WAF, Token Management

Engineering & Systems: - Automation: Industrial Controls, Process Automation - Mechatronics: PLC Programming, System Integration - Electronics: Circuit Design, Sensor Integration - Architecture: Microservices, API Design, System Architecture

Industry Knowledge: - AI Systems Integration - Full Stack Development - Cloud Architecture - DevOps Practices - Data Science Fundamentals - Machine Learning Implementation - Object-Oriented Programming - Remote Team Management

Languages: - Spanish (Native) - English (Full Professional) - German (Full Professional)