

# Jorge Arturo Aliaga Valencia

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## SUMMARY

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As an AI and automation engineer with full-stack development expertise, I build web and mobile applications using React, Next.js, Angular, and Flutter, with a strong focus on clean design, solid architecture, and scalable solutions. I work with NestJS, Spring Boot, and Python frameworks such as FastAPI and Flask, backed by optimized databases including PostgreSQL and SQL Server. Beyond application development, I specialize in applied AI and automation — leveraging tools such as n8n and Make to design data pipelines, integrate external APIs, and deliver functional MVPs that address real business needs. I have hands-on experience deploying microservices-based systems with Docker and Kubernetes on AWS (EKS) and Google Cloud (GKE), enhancing performance through caching, workflow automation, and well-structured APIs. I apply AI pragmatically, integrating machine learning models and LLM-based capabilities via Python APIs to streamline processes, reduce manual overhead, and enable data-driven decision making.

## EXPERIENCE

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### Lead AI & Automation Engineer

#### FinUp

February 2026 - Present

- Design and implement data pipelines and ETL/ELT processes in Python and SQL, encompassing data quality validation, transformation with Pandas and NumPy, and dataset structuring for analytics and reporting.
- Build RAG systems and AI-powered document processing pipelines, combining OCR, large language models, and structured prompt engineering to automate information extraction and support data-driven business decisions.
- Design and deploy lightweight AI agents and automation flows, embedding AI-driven components into backend systems to eliminate manual processes and surface actionable insights automatically.
- Deliver functional MVPs within short timeframes, translating technical and functional requirements into validated prototypes in close collaboration with end clients and internal stakeholders.
- Architect FastAPI backends with modular, well-documented, and reusable designs, applying REST best practices, scheduled job management, and robust error handling across integrated services.
- Produce technical documentation, architecture diagrams, and solution proposals for AI and automation initiatives, presenting prototypes and project progress directly to clients and decision-makers.

### Fullstack Developer & AI Engineer

#### Freelance

April 2023 - February 2026

- Designed and delivered applied AI and automation solutions end-to-end, from technical-functional requirement gathering with clients and internal teams through to production-ready deployment.
- Built and integrated scalable APIs using FastAPI, Flask, NestJS, and Spring Boot, handling authentication, pagination, rate limiting, and error management.
- Implemented workflow automations using n8n, Make, and equivalent platforms, reducing manual processes and improving operational efficiency.
- Designed and delivered functional MVPs in short iteration cycles, rapidly validating AI and automation use cases with stakeholders.
- Applied hands-on AI techniques including LLM APIs, prompt engineering, and lightweight RAG-based assistants (LangChain / LlamaIndex) to support real business workflows.
- Deployed and operated microservices-based architectures using Docker and Kubernetes on AWS (EKS) and Google Cloud (GKE), ensuring scalability and reliability. Collaborated closely with software factories and cross-functional squads, presenting prototypes, documenting architectures and reusable flows, and contributing to solution prioritization and continuous improvement. Designed CI/CD pipelines with Jenkins, GitHub Actions, and GitLab CI, improving deployment reliability and reducing release cycles across all environments.

### Fullstack Developer & Machine Learning Engineer

#### UplabsAI

January 2025 - April 2025

- Designed and developed automation solutions leveraging OCR, cluster analysis, embeddings, and natural language processing techniques.
- Built robust data extraction pipelines using OpenCV, Tesseract, and custom NLP models to process scanned documents and unstructured text.
- Developed high-performance RESTful APIs with FastAPI, with emphasis on scalability, modularity, and asynchronous processing.
- Implemented recommendation and classification systems based on semantic similarity and unsupervised machine learning (K-Means, DBSCAN, Sentence Transformers).
- Automated repetitive workflows through microservices and background workers, optimizing operational efficiency and long-term maintainability.
- Integrated comprehensive monitoring and logging solutions across distributed services, enabling rapid detection and resolution of system anomalies and facilitating ongoing system performance improvements.

## **EDUCATION**

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### **Systems Engineering**

Universidad Autónoma Gabriel René Moreno (UAGRM) · 2025

## **CERTIFICATIONS**

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### **Python for Data Science and AI**

IBM · 2025

### **PH125.8x: Data Science – Machine Learning**

Harvard University · 2025

### **RAG for Generative AI Applications Specialization**

IBM · 2025