JULIO CESAR FORERO ORJUELA

SOLUTION ARCHITECT | AI & CLOUD ENGINEER

CONTACT INFORMATION

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- **Portfolio:** https://juliocesarforero.github.io/

PROFESSIONAL SUMMARY

Software Architect with over 10 years of experience in designing and implementing enterprise solutions that combine custom software development (Web and Mobile), Artificial Intelligence, and Cloud Computing deployment. **Recently completed Master's in Software Engineering (MISO - Universidad de los Andes)** with specialization in Cloud Computing, DevOps, Automated Testing, and Software Architecture and AI with Agents and MCP.

Currently specialized in **AI-driven architectures with LangChain, N8N and modern microservices patterns**. Proven experience in technical leadership of multidisciplinary teams and design of scalable architectures that have generated **25-70% improvements in operational efficiency**. Knowledge of architectural frameworks (TOGAF, C4 Model), REST API patterns, hexagonal microservices, and hands-on experience **implementing solutions in GCP and AWS**.

Strong skills in technical documentation with UML, AS-IS/TO-BE methodologies, architectural artifacts and views, as well as significant requirements analysis (ASRs). **Currently deepening expertise in cloud computing Kubernetes and obtaining cloud certifications** to consolidate expertise in distributed cloud-native architectures.

PROFESSIONAL EXPERIENCE

Green Travel | Bogotá, Colombia
Independent Consultant - AI Solutions and Automation | 2025 - Present

- **RAG Assistant for Tourism Package Queries:** Designed and implemented an intelligent assistant based on RAG (Retrieval-Augmented Generation) using LangChain and language models, enabling natural language queries of tourism package catalogs. Integration with Pinecone vector database for semantic search of destinations and offers.

- **Invoice Processing Automation with N8N:** Designed and documented an N8N automation workflow for invoice capture, validation, and processing of supplier invoices, **reducing manual settlement time by 70%**. Includes automatic data extraction, validation against suppliers, and settlement report generation.

- **GCP Deployment:** Implemented both solutions in Google Cloud Platform using Cloud Run for APIs, Cloud Storage for document management. Configured CI/CD with Cloud Build for automated microservice deployment.

- **Integration Architecture:** Designed architecture integrating the AI assistant with existing DMC reservation systems through REST APIs and MCP (Server/Client), enabling seamless operation without disruptions (On-premise to Cloud migration in progress).

Accion Point - Toolnology Colombia | Bogotá, Colombia
Low-Code, Artificial Intelligence and Pre-sales Specialist | 2023 - 2025

- **Generative AI Solutions Architecture:** Designed and implemented AI-based solution architectures using GPT-4, Claude, open-source LLMs, RAG, NLP and OCR for intelligent process automation in Insurance, Leather goods, logistics and transport, and legal sectors

- **API and Microservices Design with AI Assistants:** Implemented microservices architectures with REST APIs and conversational assistants that **reduced task processing time by up to 60%** through automations and integrations of different services and providers

- **Conversational Chatbot Architecture:** Designed and documented advanced chatbot architectures with GPT, RAG, API integrations, and vector database connections (Pinecone), using C4 diagrams and technical documentation that **increased customer satisfaction by 45%**

- **Technical Leadership in Architecture:** Led technical training on AI, LLMs, process automation, agile methodologies and DevOps for over 15 professionals; coordinated discovery sessions and architectural design with international stakeholders

Accion Point | Bogotá, Colombia
Senior Developer - Technical Lead in Low-Code Software Development | 2017 - 2023

- **IDP Architecture - Single Sign-On (SSO):** Led architectural design and development of federated identity application using C4 Model, integrating Active Directory, CRM and third-party applications through REST API orchestration bus. Ensured secure SSO between mission-critical applications of national financial organization

- **Core Industrial Migration Architecture:** Led migration of 2 core applications in graphics industry using AS-IS/TO-BE methodologies, integrating transportation and logistics services through REST APIs to warehouse, inventory and order dispatch systems

- **Multi-platform Financial Application Architecture:** Designed and maintained web and mobile (iOS/Android) architecture for financial entity, integrating SAP Core (SOAP) and CRM (REST) for credit and insurance queries

- **BPM Process Architecture:** Optimized audit processes using BPMN and scripts, **reducing operational response times by over 35%** through BPM solution with multiple database engines

- **Financial Validation Architecture:** Implemented validation systems for black list transactions for debit card sector, integrating Bantotal banking core with Low-Code Oracle technology

- **Budget Management Application Architecture:** Designed and developed MVC architecture for web application managing annual budgets for armed forces entity, integrating CRM through REST APIs with C# and SQL Server

- **Cadastral System Architecture:** Participated in architectural design and refactoring of cadastral management system for Catastro de Salta, Argentina, implementing pass management and integration with Mercado Pago payment gateway

Greenggers | Bogotá, Colombia
Low-Code Software Analyst Engineer (GeneXus) | 2016 - 2017

- **"Do" Product for Community Management:** Participated in development of "Do" product for community management using GeneXus Low-Code in .NET environments as part of a team of 5 developers

- **MVC Architecture with REST Services:** Implemented MVC architecture with REST services for inter-module communication using SQL Server and C# .NET

- **Mobile Services Development:** Developed mobile services layer and inventory management modules for medications in veterinary clinics

- **External APIs Integration:** Integrated external APIs (Google Maps, SMS, email) for location and communication functionalities

- **Medical Management MVP Application:** Developed from scratch a complete application (MVP) for doctor and medical route management, connecting doctors and patients

- **Cloud Deployment:** Participated in successful product deployment in cloud production environments EC2 and RDS with nationwide implementation in clinics

EDUCATION

Universidad de los Andes | Bogotá, Colombia
Master's in Software Engineering (MISO) | 2023 - 2025 ✓ COMPLETED

- **Highlighted Courses:** Full Stack Development, Software Architecture, Cloud Computing (AWS/GCP), DevOps, Automated Testing, Distributed Systems

- **Highlighted Academic Projects:**

  - Design of scalable microservices with hexagonal architecture

  - Cloud-native solutions implementation with GCP/AWS

  - AI architectures with RAG and LLMs

  - Process automation with N8N and LangChain for intelligent workflows

  - Study of Kubernetes orchestration for productive deployments

Universidad Santo Tomás de Aquino | Bogotá, Colombia
Electronic Engineering | 2005 - 2010

CERTIFICATIONS AND CONTINUOUS TRAINING

- **AWS Certified Cloud Practitioner** (In Progress)

- **Google Cloud Platform Professional** (Study and Hands-on Training)

- **SCRUM Fundamentals Certified (SFC)**

- **GeneXus Workflow BPM** - Certified

- **Docker - Practical Guide for Developers**

- **Airtable - NoCode Databases**

- **Practical Cloud Computing with GCP** (Hands-on experience in real projects)

TECHNICAL COMPETENCIES

Software Architecture (Professional Experience)

- **Architectural Frameworks:** TOGAF, C4 Model, UML, 4+1 Views

- **Architectural Patterns:** MVC, Event-Driven Architecture, CQRS, Saga, Hexagonal Microservices

- **API Design:** REST, SOAP, GraphQL, API Gateway, Service Mesh

- **Systems Integration:** Message Queues, Event Streaming, Service Mesh, Process Orchestration

- **Methodologies:** AS-IS/TO-BE, Architectural Artifacts, ASRs, Application Catalogs

- **Quality:** Testing, Code Review, Clean Code, SonarCloud, TDD, BDD

- **Testing:** Pytest, Jest, Selenium, Cypress, JMeter, Postman

Artificial Intelligence & Machine Learning (Hands-on Experience)

- **LLMs & AI Frameworks:** GPT, Claude, Gemini, Mistral, Llama

- **AI Orchestration:** LangChain, LlamaCloud, LlamaParse, RAG (Retrieval-Augmented Generation)

- **Intelligent Automation:** N8N, Make, for workflows with AI

- **NLP Processing:** NLP, OCR, Transformers, Hugging Face

- **AI Architecture:** MLOps, Model Serving, A/B Testing, Vector Databases (Pinecone)

Cloud & DevOps (Hands-on Experience in AWS and GCP)

- **Cloud Platforms:** Google Cloud Platform (GCP) - hands-on experience with Cloud Run, Firestore, Cloud Storage, Cloud Build

- **AWS** (theoretical-practical knowledge, hands-on experience): EKS, Lambda, EC2, RDS, S3

- **Containers:** Docker, Kubernetes (hands-on experience)

- **CI/CD:** Jenkins, GitHub Actions, GitLab CI, Git, Cloud Build

- **Infrastructure as Code:** Terraform, Ansible (fundamentals)

Programming Languages & Frameworks

- **Python** (FastAPI, Flask, LangChain, Pytest) - Practical experience

- **JavaScript/TypeScript** (React, React Native EXPO)

- **SQL** (SQL Server, MySQL, Maria DB PostgreSQL, Oracle)

- **Low-Code:** GeneXus, RAD Systems

Databases & Specialized Tools

- **Relational:** SQL Server, MySQL, PostgreSQL, Oracle

- **NoSQL:** MongoDB, DynamoDB, Redis

- **Cloud Datastore:** Firestore (GCP)

- **Vector Databases:** Pinecone (for RAG and embeddings)

- **AI/Automation Tools:** LangChain, N8N, Make, Airtable

- **Project Management:** Jira, GitHub Projects, Kanban

- **Collaboration & Documentation:** Microsoft Office Suite, Miro, Figma, GitHub Wiki, Mermaid, Draw.io

AREAS OF SPECIALIZATION

AI-Driven Solutions Architecture

Application of architectural frameworks (TOGAF, C4 Model) to design intelligent solutions. Experience in modern AI integration patterns: RAG, LangChain, N8N for automation. Complete technical documentation of architectural decisions (ADRs) and trade-off analysis. Implementation of AI solutions in GCP with cost management and optimization.

Microservices and Cloud-Native Architectures

Design of scalable microservices with hexagonal and event-driven patterns. Hands-on experience deploying in GCP using Cloud Run and Firestore. Implementation of API Gateways, Service Mesh and Event Streaming for highly available distributed systems. Study of Kubernetes for advanced orchestration.

Intelligent Automation with AI

Implementation of pipelines combining LLMs with automation workflows. Hands-on experience with N8N (No-Code) + LangChain (Python) for complex enterprise processes. Integration of conversational assistants, OCR/NLP document processing and automatic validation. Deployment and operation in GCP.

Technical Leadership and Communication

Leadership of multidisciplinary teams (up to 10 people). Architectural presentations to stakeholders. Technical training in emerging technologies. Coordination of multicultural teams in international projects.

SOFT SKILLS

Leadership & Management

- Technical leadership of multidisciplinary teams (up to 10 people)
- Management of complex architecture projects with agile methodologies
- Mentoring of junior architects and developers
- Coordination of multicultural and multinational teams

Problem Solving

- In-depth analysis of business requirements and mapping to technical solutions
- Design of scalable architectures for distributed systems
- Optimization of operational processes and efficiency improvement
- Implementation of AI solutions for enterprise automation

Communication & Collaboration

- Technical presentations on architecture to C-level and stakeholders
- Clear and complete technical documentation of architectural decisions

- End-user and technical team training

- Design collaboration using visual tools (Miro, Figma)

- Writing technical proposals and impact analysis

FEATURED PROJECTS

RAG Assistant + Invoice Automation for Green Travel | 2025

- **RAG Assistant:** Implemented intelligent assistant with LangChain and RAG for tourism package queries, enabling natural semantic search of destinations, prices and offers through Pinecone vector database

- **Invoice Automation:** Designed complete automation flow in N8N for OCR invoice capture, automatic data validation, cross-checking with supplier information, and settlement report generation

- **GCP Deployment:** Implemented both solutions in Google Cloud Platform with Cloud Run for APIs, Cloud Storage for documents, and Cloud Build CI/CD for automated deployment

- **Integration Architecture:** Designed seamless integration of AI assistant with existing DMC reservation systems using REST APIs and MCP protocol

Architectural Leadership in Generative AI Solutions | 2023 - 2025

- **AI Architecture Design:** Designed end-to-end solutions with GPT-4, Claude, LLMs, RAG, implementing chatbots and intelligent process automation for multiple industries

- **Microservices with AI:** Implemented scalable microservices architectures with REST APIs and conversational AI that reduced processing times by 60%

- **Technical Mentoring:** Conducted training sessions for 15+ professionals on AI, LLMs, automation, DevOps and architectural patterns

IDP Architecture - Single Sign-On Implementation | 2017 - 2023

- **Federal Identity Architecture:** Led design and development using C4 Model framework, integrating multiple enterprise systems through REST API orchestration

- **Enterprise Integration:** Implemented secure SSO between mission-critical applications for national financial organization

- **Documentation:** Comprehensive technical documentation with UML diagrams and architectural views

Core Application Migrations | 2017 - 2023

- **Industrial Migration:** Led migration of 2 core applications using AS-IS/TO-BE methodologies

- **Systems Integration:** Designed and implemented REST API integration of transportation and logistics services

- **Process Optimization:** Achieved 35% reduction in operational response times through BPM optimization

TECHNICAL EXPERTISE SUMMARY

- **10+ years** of experience in software architecture and enterprise solutions

- **Expert** in AI-driven architectures with LangChain, RAG, N8N

- **Proficient** in Cloud Computing (GCP, AWS) with hands-on deployment experience

- **Master's degree** in Software Engineering with specialization in Cloud and AI

- **Proven track record** of delivering 25-70% operational efficiency improvements

- **Leadership experience** with multidisciplinary teams and international stakeholders

- **Continuous learner** actively pursuing cloud certifications and emerging technologies

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References available upon request | Last updated: December 2025