

Jorge Enrique NICOLAU

AI Solution & Enterprise Architect, Buenos Aires, Argentina

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Senior AI Solutions Architect with extensive expertise in designing, implementing, and governing high-impact technology solutions across the cloud-native and custom application landscapes. Proficient in Java, C#, and major cloud platforms, driving architectural excellence through strategic technology selection and hands-on delivery. Educational foundation includes a B.S. in Computer Engineering from UTN, complemented by an ongoing M.D. in Data Science at Universidad Austral, where research and practice focus on machine learning, advanced analytics, and the engineering of Agentic AI systems. Expert at bridging the gap between software architecture, data engineering, and AI-enabled development, leveraging DevOps and MLOps principles—including CI/CD, reproducibility, and environment automation—to ensure operational excellence. Actively integrates Generative AI and Agentic AI-first practices for code refactoring, architecture analysis, and automated decision support, implementing AI SDLC with SDD and Agentic Engineering solutions, with a steadfast commitment to building scalable, secure, and resilient enterprise ecosystems.

EXPERIENCE

Cloud & Custom Architecture + Data/AI Practice Lead

Capgemini, October 2025 - Current

Lead the definition, evolution, and adoption of engineering best practices across cloud platforms, custom application architectures, and Data Science and Machine Learning ecosystems, aligning solutions with client technology landscapes and business objectives while integrating AI-driven development paradigms. Act as a technical and architectural advisor for new initiatives, designing scalable, secure, and resilient software, data, and ML solutions using proven patterns, corporate standards, and advanced engineering practices. Define and govern cross-domain practices spanning software engineering, data engineering, and ML lifecycle management, with strong emphasis on code quality, data integrity, reproducibility, security, and operational excellence. Drive adoption of Agentic AI Software Engineering through Spec-Driven Development (SDD) using frameworks such as GitHub SpecKit and OpenSpec; this implementation enables teams to define executable specifications that AI agents consume to generate, validate, and evolve codebases in a controlled, auditable, and repeatable way. Develop specialized agents for automated software architecture assessment, enabling continuous evaluation of system design against established patterns and quality attributes. Design a Memory Router and Memory Service specifically optimized to reduce token consumption by intelligently managing context persistence and retrieval across agentic workflows. Promote the use of tools such as GitHub Copilot CLI, OpenCode, Gemini CLI, and Claude Code to enhance productivity across code generation, testing, documentation, and analysis. Enable DevOps and MLOps practices with CI/CD and CI/CT pipelines, automation, and governed promotion of applications, data pipelines, and ML models. Leverage Generative AI and agentic workflows to improve development efficiency, observability, root cause analysis, and model diagnostics. Lead legacy modernization initiatives using documentation-driven and AI-assisted reverse engineering to transform monolithic systems into scalable, maintainable architectures, while mentoring multidisciplinary teams in AI-augmented, specification-first delivery practices. Focus on: Cloud Platforms, Custom application stacks, DevOps and CI/CD, Software & Data Architectures, Data Science and MLOps, Generative & Agentic AI, Legacy modernization.

South America IT Regional Architect

Viterra, June 2024 - September 2025

Responsible for designing and advising on the technology infrastructure and systems that support the organization's business operations, providing guidance to ensure the IT environment is scalable, secure, and aligned with strategic objectives. Key responsibilities include developing and maintaining the overall architecture framework and IT strategy in collaboration with stakeholders, and designing end-to-end solutions for IT systems—spanning hardware, software, network, and cloud-based systems—while ensuring scalability and security. This role involves designing and implementing system integration strategies to ensure seamless communication and data exchange. Furthermore, it encompasses risk management, establishing IT governance policies and best practices, and evaluating/selecting third-party products and services through vendor management. The role requires close collaboration with IT professionals and involves creating and maintaining detailed architectural documentation, including blueprints and roadmaps. Focus areas include Enterprise Architecture, Data Architecture, and Software Architecture Assessment. I have also led the exploratory usage of local LLM and RAG solutions to enable natural language querying of operational data.

Solution Architecture Expert

Chazki, September 2023 - May 2024

Oversaw system architecture assessment and provide recommendations, focusing on the design of improved components and guiding teams on best practices for architecture patterns implementation, testing, and usability. A major initiative was consolidating multiple application stacks into a single, new Agnostic Cloud Deployment Framework. This role required designing efficient, secure, and scalable hardware, software, and infrastructure solutions. Key responsibilities included project planning, selecting appropriate technologies, implementing a strong security approach, and optimizing system performance, troubleshooting, maintenance, and evolution to meet changing business needs. I was also responsible for maintaining detailed documentation, assessing and mitigating risks, establishing technical standards, and collaborating closely with development teams. Focus on: Cloud Solutions Architecture, Microservices Architecture, IoT Architecture, DevOps.

Solutions Architect

Auth0/Okta, November 2020 - August 2023

Solutions Architect responsible for the Customer Identity Cloud (CIC, formerly Auth0) implementation and best practice coaching for largest customers. Architect and lead the integration of CIC solutions by translating complex business and security requirements into actionable technical designs, requiring deep identity management knowledge. Applied advanced solution design principles to define customer solutions, scope efforts, and provide technical leadership while leading cross-functional teams across Okta. Key responsibilities included assisting customers with architecting, planning, developing, and applying governance for CIC integrations; conducting quality and product usage checks; and developing project plans, issue logs, and status reports. Expertise focused on: Customer Identity and Access Management (CIAM), CIC Platform Extensibility, adapting authentication flows, API RBAC enforcement with OAuth 2.0, and Apps Users Authentication and Authorization with OIDC.

Senior Solutions Architect

GlobalLogic Latam, July 2019 - October 2020

As a strategic designer and planner of solutions in a technology environment, I led the process of developing solutions that fit an enterprise architecture from a business, information, and technical standpoint. My core responsibilities included designing applications and services in solution development teams to mesh ideally with the enterprise environment, controlling solution development, and making technical decisions to positively impact business outcomes by advising on technology utilization. I was responsible for assessing existing systems architecture, conducting architectural system evaluations, and recommending solutions in collaboration with business and technical staff. This involved selecting the most appropriate technology stack, balancing project and enterprise architectural concerns, and performing resource evaluations. Furthermore, I advised on risks related to third-party frameworks/platforms, recommended best practices, and prepared specifications that set solution parameters and final delivery boundaries. The role also included supporting the sales process, developing and raising awareness of internal Architecture practice, and assessing new technologies through proofs of concept and creation of solution prototypes, with a focus on Cloud Solutions Architecture, Microservices Architecture, DevOps, Business analysis, and Project and product management.

Technology Manager

everis Argentina, October 2006 - June 2019

I led complex technology projects across banking, insurance, telecom, and energy sectors, bridging business needs with development teams and external vendors. I designed scalable, high-availability architectures, integrating legacy core systems with modern web, mobile, and cloud solutions to ensure interoperability, resilience, and alignment with strategic objectives. I focused on modernizing front-ends and building integration layers to decouple user experience from monolithic backends. I designed and oversaw software architectures, middleware, REST APIs, SOA, and big data solutions with an emphasis on scalability and operational continuity. I led multidisciplinary teams and coordinated external vendors, managing resources, schedules, and risk. I drove technology PoCs and pilots with Node.js, AngularJS, Docker, Cloudera, IBM WebSphere, and Oracle SOA Suite, setting adoption guidelines and best practices. My role included supporting pre-sales and proposal development, providing architectural vision and technical feasibility aligned with business goals, along with project delivery support. I led the design and implementation of Cloud Solutions on AWS, MS Azure, and Google CP, as well as Big Data Architectures on Hadoop and Cloudera. I focused on the design and implementation of generic System Architectures, suitable tech stacks, best

practices, high availability, and microservices orientation. The position involved assessment and advisory of existing architectures, research and Proofs of Concept with emerging technologies, development of internal Digital Architecture Knowledge Practices, advice on methodology and corporate tool usage, coordination with the Corporate Tech Team, and internal R&D projects following and coordination.

Information Systems Consultant

DMR Consulting Argentina, December 2000 - September 2006

I led and participated in international technology consulting projects for the financial services, insurance, telecom, healthcare, and European government sectors. My responsibilities included Architecture & System Design, where I defined and implemented multichannel architectures, integrated heterogeneous platforms (J2EE, .NET, SAP, AS/400, mainframes), and designed scalable solutions focused on interoperability and performance. For Project & Team Leadership, I coordinated distributed teams across Argentina, Brazil, Mexico, Venezuela, the U.S., and Europe, delivering onshore and offshore projects under strict international quality standards. In Application Development & Evolution, I built multilingual web applications, core commercial systems, and financial front-ends using Java/J2EE, C#, ASP.NET, VB6, T-SQL, Informix, Oracle, and SQL Server. I ensured Enterprise Integration & Middleware using WebLogic, iPlanet, SunONE, Vitria, MQSeries, and MSMQ to guarantee reliable enterprise interoperability. Furthermore, I handled Technology Evaluation & PoCs by conducting architecture assessments, providing strategic recommendations, delivering proof-of-concepts for new platforms, and defining technology roadmaps for global clients. This role consolidated my expertise as a Solutions Architect, enabling me to bridge technology vision with business strategy and manage the complexity of mission-critical projects in multinational environments.

EDUCATION

Magister en Ciencia de Datos (Magíster en Explotación de Datos y Gestión del Conocimiento, eq. to M.D. in Data Science).

Universidad Austral (2024 - Present). Buenos Aires, Argentina

- Curriculum focused on core subjects including Statistics, Data Mining, and Machine Learning, with emphasis on practical, ethical data usage and decision-making for professional implementation. Study includes specialized topics such as Advanced Analytics, MLOps, and the Engineering of Agentic AI systems.

Ingeniero en Sistemas de Información (eq. to B.S. in Computer Engineering).

UTN (1994 - 1999). San Miguel de Tucumán, Argentina

- Advanced specialization focusing on modern industry topics including Data Science, Software Quality, Simulation, Artificial Intelligence, and Information Security, culminating in a Final Project.

Analista Universitario de Sistemas (eq. to A.S. in Computer Analysis).

UTN (1994 - 1998). San Miguel de Tucumán, Argentina

- Core curriculum covering foundational sciences (Mathematical Analysis, Physics, Algorithms), core programming (Programming Paradigms), and system fundamentals (Operating Systems, Databases, Software Development), establishing a solid base for complex enterprise solution roles.

LANGUAGES

Spanish: Native Proficiency (C2)

English: Fluent (Cambridge FCE - B2 Certified, 2004)

French: Upper Intermediate (DEL F B2 Certified, 2008)

Portuguese: Upper Intermediate (B2)

Italian: Intermediate (B1 Certified, 2016)

German: Intermediate (B1)

SKILLS

Architecture, Governance & Methodology: Enterprise Architecture (ARIS, ArchiMate, UML), RUP, Design Patterns, Microservices, SOA, Lambda. Project Management (PMI, Scrum, Kanban, COBIT, ITIL, ACORD).

AI, MLOps & Data Engineering: LLM, RAG, Agentic AI SWE (Spec Driven Development, GitHub Copilot CLI, Gemini CLI), MLOps, Time Series Forecasting. Big Data (Hadoop, Cloudera, Spark,

Hive). Databases (Oracle, PostgreSQL, MySQL, SQL Server, MongoDB, HBase). Analytics & BI (Python/Jupyter, R/R Studio, Pentaho, Qlik, Power BI, Excel).

Cloud, DevOps & Orchestration: AWS, Azure, Google Cloud (GCP), Netlify, Heroku. CI/CD (GitHub Actions, Jenkins), IaC (Terraform), Containers & Orchestration (Docker, Kubernetes).

Integration & Middleware: REST/SOAP, API Management, SOA Suite (Oracle, WebLogic), EAI Patterns (JMS, MQSeries), MuleSoft, Application Servers (WildFly, Tomcat). Data Transformation (XSLT).

Identity & Security (CIAM): OAuth 2.0, OpenID Connect (OIDC), SAML, SCIM, API RBAC Enforcement.

Programming & Frameworks: Java, Python, Go, C#, C/C++, Node.js, Pascal. Frameworks (.NET, Spring Boot, Express.js).

Web Development & Tools: HTML5, CSS3, JavaScript, Bootstrap, Responsive Design, XML, JSON. Version Control (Git, GitHub). IDEs (VS Code, IntelliJ, Eclipse).

Blockchain & IoT: Ethereum, Solidity, Smart Contracts, DApps, Web3.js, Tokenization. IoT (Arduino, MQTT, Real-time Data Transmission, Sensor Control).