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1. Executive Summary

MBA. Ing. Juan Marcelo Barreto Rodríguez *Architect & Director in Smart Integration Technologies | Full-Stack & GIS Developer | Project Manager*

Engineer and Master's degree holder with over 15 years of experience leading large-scale technology projects, software development, and corporate training. Specialist in the architecture and implementation of embedded systems (IoT), intelligent automation, data analytics using Python/Machine Learning, and geospatial web development (GeoDjango/GIS). Extensive experience as a strategic consultant and technology provider for large organizations and government agencies (Coca-Cola, ANSES, CONUAR). Expert in directing interdisciplinary teams and optimizing critical infrastructure.

2. Professional Experience

Director - Center for Intelligent Integration Technologies, UTN Buenos Aires | 2024 – Present

- Strategic leadership and direction of the center, focused on research, development, and implementation of IoT, domotics, and software integration solutions.
- Supervision of modular technological architectures and coordination of technical teams for technology transfer to industrial and residential sectors.

Technology Consultant and Training Service Provider, Coca-Cola | Late 2025 – Present

- Design and delivery of advanced technical training programs in Python, focused on corporate process automation, data structure management, and internal workflow optimization.

Software Engineer (Remote), Klagan (Barcelona, Spain) | Pandemic Period

- Software development and international technical collaboration using agile methodologies for European projects.
- Integration of software architectures and code maintenance for distributed platforms.

General Consultant and Solutions/Training Provider, ANSES | 2018

- Continuous development of technical training and modernization solutions for agency personnel.

- Instructional design and implementation of advanced learning paths in software development and technology management tools.

General Coordinator and Academic Specialist, Secretariat of Culture and University Extension – UTN FRBA / FRH | 2011 – Present

- Curriculum design, technical direction, and delivery of high-specialization programs: Django (Scalable Applications/GeoDjango), Python 3, Machine Learning & Neural Networks, Home Automation with Home Assistant, and IoT with Arduino.
- Management of e-learning platforms and coordination of over 10 simultaneous technology labs and training paths.

Project Manager / Project Engineer, CONUAR - FAE (Combustibles Nucleares Argentinos) | 2006 – 2011

- Engineering project management for the production of nuclear fuel components for Atucha and Embalse power plants.
- Implementation of Lean manufacturing methodologies: OEE, FMEA/AMFE, 5S, 8D, and contingency planning under strict international standards (AIRBUS, nuclear sector).

3. Projects

Integrated Road Management & Rural Reporting Platform (GeoDjango & GIS)
Software Architect & DevOps (Independent Project / Portfolio)

- Complete design and deployment of a spatial web application for agricultural route tracing and geolocated incident management using GeoDjango and PostGIS.
- Autonomous deployment on Linux VPS cloud servers in isolated virtual environments, managing security via Token-based authentication (PAT) and distributed version control with Git/GitHub.
- Interactive frontend interface implemented with Leaflet.js for rendering complex vector geometries (LineStringField and PointField) and real-time automated processing of logistics and maintenance costs per kilometer.

4. Education

- **MBA - Master of Business Administration**, UTN FRBA (Thesis: Outstanding, GPA: 9/10).
- **Materials Engineering**, Instituto Sábato - Comisión Nacional de Energía Atómica (CNEA).
- **Advanced Studies in Physical Sciences and Industrial Engineering**, Universidad de la República (Uruguay).

5. Key Technologies

- **Backend & GIS:** Python 3, Django, GeoDjango, Node.js, PHP, MySQL, PostgreSQL / PostGIS.
- **Frontend & Maps:** JavaScript (ES6+), Leaflet.js, Angular, Vue.js, HTML5, CSS3 / SASS, Bootstrap.
- **IoT & Automation:** Home Assistant (Modular YAML, Card-Mod, Node-RED), Arduino, ESP32, PCB Design (KiCad/Eagle).
- **Infrastructure & DevOps:** Linux Server Administration, VPS Configuration, Git, GitHub (Token Authentication / SSH).
- **Management & Engineering:** Project Management, Lean Methodologies (FMEA, OEE, 5S, 5Whys), Finite Element Analysis (FEA).