NICOLÁS ZAPATA ÁLZATE

Software Engineer — Data & Automation Specialist

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SUMMARY

Software Engineer with 3+ years of experience specializing in **data automation, backend architecture, and cloud-based solutions**. Proven ability to design and implement **scalable APIs, data pipelines, and infrastructure as code (IaC)** using Python, Node.js, AWS, and Terraform. Seeking a **Data Engineer / Automation Specialist** role to leverage my skills in process optimization, system integration, and software engineering best practices to build high-impact solutions.

WORK EXPERIENCE

Software Developer – Quanam Group, Colombia   *Nov 2023 – May 2024*

- Engineered and deployed **5+ core Odoo 16 modules** (Inventory, CRM) using **Python, XML, and JavaScript**, automating key business workflows and **reducing manual order processing time by 30%**.
- Led the full development cycle for a barcode shipping system and petty cash management module, integrating with legacy systems and **reducing data entry errors by 25%**.
- Implemented automated reporting dashboards, providing real-time business intelligence that improved operational decision-making speed.

Full-Stack Developer & IT Analyst – Convivenita Colombia   *Feb 2023 – Apr 2023*

- Developed an internal full-stack dashboard with **Node.js, React, and SQL** to track and categorize **500+ program entrants**, centralizing dispersed data and **eliminating 15+ hours of manual reporting monthly**.
- Spearheaded the tool's rollout and data migration, ensuring cross-departmental adoption and maintaining **99.9% data accuracy**.

Mobile Developer (Flutter) – Vibbo   *Apr 2021 – May 2021*

- Developed key features for a startup's MVP using **Flutter (Dart)**, implementing data sync via **RESTful APIs** with a **PostgreSQL backend** and **FastAPI JWT authentication**.
- Collaborated in an Agile team to integrate frontend components with backend services, contributing to the app's successful internal testing phase.

RESEARCH & DEVELOPMENT EXPERIENCE

AI Research Engineer – La Rioja International University (UNIR)   *Mar 2020 – Dec 2022*

- Designed and implemented **Python-based machine learning pipelines** (supervised & deep learning) using **scikit-learn, TensorFlow, and Pandas**, processing custom datasets and validating model performance.
- Architected experimental frameworks that enhanced research reproducibility, forming the basis for academic publications.

- Applied software engineering best practices to build **scalable, documented code** for algorithmic research with real-world applications.

TECHNICAL SKILLS

- **Programming & Automation:** Python, Node.js, JavaScript, SQL, Bash
- **Cloud & DevOps:** AWS (Lambda, API Gateway, S3, IAM, Cognito), Docker, **Terraform (IaC)**, CI/CD, Azure
- **APIs & Backend:** FastAPI, RESTful APIs, OAuth 2.0 / JWT, Unit Testing (Pytest), Microservices
- **Data & AI/ML:** Pandas, NumPy, scikit-learn, TensorFlow, PostgreSQL, MySQL, Data Pipelines (ETL), PyTorch, OpenCV, HuggingFace, OpenRouter.
- **Frontend & Mobile:** React, React Native, Flutter, HTML/CSS
- **Tools:** Git, Linux, Odoo, n8n, Make (Integromat)

SOFT SKILLS

Analytical Problem-Solving, Proactive Mindset, Effective Communication (Technical & Non-Technical), Collaborative Teamwork in Hybrid Environments, Adaptability to Change and New Requirements

PROJECTS

Secure Backend Template with FastAPI & AWS   **Python, FastAPI, AWS, Terraform, Docker**

- Developed a production-ready backend template implementing **JWT authentication with AWS Cognito**, user management with DynamoDB, and **Infrastructure as Code with Terraform**.
- Demonstrates modern cloud architecture, API security, and DevOps practices. (View on GitHub)

End-to-End Coffee Bean Classification Model   **Python, TensorFlow, Computer Vision**

- Led a full-cycle ML project: built a manually curated image dataset and trained a supervised model to automate coffee bean quality classification.
- Showcases skills in data collection, model training, and practical AI application for agricultural problems.

Data Processing & Classification Pipeline   **Python, scikit-learn, pandas, NumPy**

- Engineered a data pipeline for CSV datasets performing cleaning, feature analysis, and training a classification tree model to derive actionable insights.
- (View on GitHub)

EDUCATION

Bachelor in Informatics Engineering
La Rioja's International University Foundation (UNIR)   *Feb 2019 – Jul 2023*

- Emphasis in Computer Engineering, Systems Engineering, and Software Engineering.

English Diploma Program
Universidad Autónoma de Manizales   *Feb 2025 – Present*

- Cambridge English-based program focused on advanced professional proficiency.

CERTIFICATIONS

- **Introduction to Microsoft Azure Cloud Services** – Coursera (Feb 2025)
- **Google AI Essentials** – Credly (Aug 2024)
- **Java Career** – Platzi (Java SE, Java EE)
- **JavaScript, Git, Database Fundamentals** – Platzi