



Rodrigo Medrano Challapa

FULL-STACK DEVELOPER



ENGINEERING PROJECTS EXPERIENCE

PROFESSIONAL SUMMARY

Full-Stack Developer specialized in the **Python** ecosystem, with proven experience designing scalable architectures, asynchronous systems, and **Artificial Intelligence** integrated solutions. Proficient in building high-performance APIs, optimizing systems via messaging queues and in-memory caching, and managing databases. Passionate about clean architecture, process automation, and containerized deployment.

CONTACT

Phone:

+591 77146477

Email:

medranochr19@gmail.com

Portfolio:

rmc-dev.org

LinkedIn:

://linkedin.com

GitHub:

://github.com

Location:

Oruro, Bolivia

Multi-Tenancy Intelligent Assistant (AI Project)

- **Architected** an automated corporate email system powered by AI (**Gemini + RAG**) to classify intent (complaints, appointments, refunds), trigger actions in Google Calendar/CRM, and manage human approval workflows.
- **Implemented** an agent orchestration engine utilizing **LangGraph** and **Gemini API** to enable complex decision-making and automated message classification.
- **Designed** a **RAG** architecture using **pgvector** in **PostgreSQL** for efficient storage and semantic search of text vector embeddings.
- **Optimized** system resilience and scalability through asynchronous task queues with **Celery** and **Redis**, processing hundreds of background requests without degrading the main API performance.

E-commerce Marketplace Platform (Web Project)

- **Built** a decoupled architecture utilizing **Django** for multi-vendor internal management and **FastAPI** to deploy high-velocity, high-throughput public APIs.
- **Established** an asynchronous event communication channel between microservices using **RabbitMQ** and **Pika**, drastically reducing software coupling.
- **Accelerated** system response times by implementing caching strategies with **Redis** and applying advanced database indexing in **PostgreSQL**.
- **Deployed** the entire application containerized with **Docker Compose**, configuring **Nginx** as a reverse proxy to manage **Gunicorn** and **Uvicorn** servers in production environments.

AI Financial Invoice Analyzer (Data Project)

- **Developed** an interactive application using **Streamlit** and **SQLAlchemy** for loading, processing, and persisting analytical billing data.
- **Integrated** the **Groq API** for the automated extraction of structured **JSON** data from unstructured text and PDFs.
- **Designed** dynamic visual dashboards with **Plotly Express**, programming modules to export customized financial reports into corporate **Excel** formats.

TECHNICAL SKILLS

Languages:

Python, JavaScript, SQL, HTML5, CSS3.

Backend Frameworks:

FastAPI, Django, Django REST Framework.

Databases & Caching:

PostgreSQL, SQLite, Redis, pgvector.

Messaging & Task Queues:

RabbitMQ, Celery, Pika.

AI & Data:

LangGraph, APIs de LLMs (Gemini/Groq), RAG, SQLAlchemy, Plotly Express.

Tools & DevOps:

Docker, Docker Compose, Nginx, Unicorn, Uvicorn, Git/GitHub, CustomTkinter.

CORE COMPETENCIES

- Clean Architecture
- Accelerated Self-Directed Learning
- Process Automation
- Complex Problem Solving

Inventory Management & Accounting Ledger System (Desktop Project)

- **Developed** a robust desktop application with **CustomTkinter** and **SQLite**, optimized for high-speed, efficient, and secure local operations.
- **Implemented** an advanced security module using **cryptographic hashes** for password protection and local database encryption.
- **Automated** the generation and styling of accounting ledgers and inventories directly into professional **Microsoft Excel** formats.



EDUCATION & CERTIFICATIONS

SPECIALIZED TECHNICAL TRAINING

Full-Stack Software Development: Over 1,200 hours of self-directed study focused on software architecture, advanced databases, containerization, and Artificial Intelligence systems (2024 - Present).

LANGUAGES

English – B2 Level (Upper-Intermediate) | EF SET

International Certification. -- [Link](#)

TECHNICAL CERTIFICATIONS

- **Python – Developer Certification** | freeCodeCamp. -- [Link](#)
- **SQL and Relational Databases 101** | Cognitive Class (Powered by IBM Developer Skills Network). -- [Link](#)
- **NoSQL and DBaaS 101** | Cognitive Class (Powered by IBM Developer Skills Network). -- [Link](#)
- **Docker Essentials: A Developer Introduction** | Cognitive Class Powered by IBM Developer Skills Network). -- [Link](#)
- **Course AZ-900T00-A: Introduction to Cloud Infrastructure** | Microsoft Certified -- [Link](#)