

# ENRIQUE MASCARUA LEY

AI /ML ENGINEER

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Merida, Yucatan, Mexico

## SUMMARY

Software Engineer specialized in building AI-driven applications, with deep focus on adapting models, understanding data provenance, and managing cloud infrastructure. Experienced in administering models and data pipelines on tools such as Snowflake, and in leading and architecting end-to-end applications powered by intelligent agents. Specialized in adapting AI applications to non-conventional environments — telephony, SMS, social media — as well as embedding business-rule-driven logic into enterprise processes.

## EXPERIENCE

02/2026 -  
actualidad

### WOLTERS KLUWER

SR. GENAI ENGINEER | DATA SCIENTIST

Collaborated on the design and operation of enterprise-grade AI solutions on top of a proprietary agent-orchestration framework, integrating mission-critical business systems with strict compliance, telemetry, and automation practices. My approach combined IaC architecture, end-to-end observability, and high-volume transaction handling to ensure secure, auditable, and scalable deployments in regulated environments.

- Operated and extended the specialized agent-orchestration framework, integrating intelligent agents with enterprise systems to automate critical workflows and process massive transaction volumes with high reliability.
- Designed Infrastructure-as-Code (IaC) and automation pipelines aligned with regulatory compliance, ensuring traceability, change control, and reproducible deployments in sensitive production environments.
- Contributed to cross-cutting telemetry and observability initiatives, establishing monitoring and alerting standards that strengthened the operational reliability of AI systems in production.

11/2025 -  
actualidad

### DIRECTO TELECOM

GENAI ENGINEER | MLOPS

Led the end-to-end development of Voice AI solutions, designing integrations with telephony engines, SIP/RTP communication protocols, and conversational applications with real-time voice processing. Combined ML model engineering for audio classification and routing on carrier-grade infrastructure with modern multicloud DevOps practices, leveraging AI/agent-specialized services such as Vertex AI, AWS Bedrock, and Azure AI Foundry to train, manage, and deploy models in production.

- Designed and administered the telephony infrastructure and communication protocols connecting conversational agents with telecom switches and carriers, ensuring bidirectional audio with ultra-low latency and natural voice experiences.
- Programmed and deployed audio classification models (Random Forest) and verb/intent processing directly on the telephony gateway, optimizing routing and conversational quality in real time.
- Implemented a multicloud architecture with KEDA for on-demand autoscaling and CI/CD with model versioning, integrating Vertex AI, Bedrock, and Foundry for continuous creation, management, and deployment of production AI agents.

06/2025 - 09/2025

### **NEXONE AI**

SENIOR BACKEND ENGINEER | GENAI ENGINEER

Led end-to-end architecture and delivery of two flagship products during NexOne's foundational fintech phase: 121 Experts, a freelancer-matching communication platform, and HaloFi, an agentic financial platform built on Plaid, LangGraph orchestration, and Datadog observability. Owned system design, CI/CD strategy, banking-grade security, and cross-functional leadership across QA and mobile teams, while serving as the primary technical liaison for investor relations.

- Designed and deployed the agentic framework powering HaloFi, leveraging cloud-native services, LangGraph for multi-agent orchestration, and Datadog for full-stack observability — ensuring traceability, SLA compliance, and resilient agent workflows in production.
- Implemented banking-grade security protocols and continuous-delivery pipelines for Plaid integrations, guaranteeing compliant transaction handling, zero-downtime releases, and rapid iteration during MVP launch.
- Led QA and mobile engineering teams and architected the CI/CD backbone for 121 Experts, aligning delivery milestones with investor expectations and translating product strategy into measurable engineering KPIs.
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01/2025 - 05/2025

### **VOCAL AI**

PRINCIPAL SOFTWARE ENGINEER | TECH LEAD

Led the design and implementation of the conversational voice infrastructure for clients in the real estate sector, integrating AI-based agents with existing sales channels and CRMs. Built a scalable and resilient architecture on Azure (AKS + KEDA), complemented with personalized recommendation models to optimize conversion and end-user experience.

- Designed and implemented the SIP telephony infrastructure for the conversational voice platform, integrating sales channels and CRMs from real estate clients.
- Built the scaling and event-mitigation layer with AKS and KEDA on Azure, ensuring availability and on-demand autoscaling in real time.
- Implemented a K-Nearest Neighbors (KNN) model for product recommendation, personalizing user experience based on behavioral patterns.

01/2024 - 02/2025

### **GIN REAL ESTATE**

DEVELOPMENT & INNOVATION MANAGER

Led the development of conversational AI and automation solutions for real estate agencies in southeast Mexico, designing custom multi-agent systems and CRMs that connect commercial operations with reliable data flows. Combined technical leadership, end-to-end observability, and direct involvement in business strategy to deliver scalable platforms aligned with business needs.

- Led the development of CRMs and multi-agent systems with LangGraph for southeastern real estate agencies, automating commercial workflows and lead tracking.
- Implemented observability with Datadog and LangSmith for anomaly detection in agents, improving deployment practices and test automation in production.
- Drove the data governance and cloud administration transformation, establishing quality and traceability standards across the company's pipelines.
- Participated in commercial negotiations and requirements gathering with regional developers, translating business needs into scalable technical solutions.

08/2022- 07/2023

## CODEY

AI & MACHINE LEARNING MODELS ENGINEER

- Built a conversational English-learning platform on WhatsApp with multi-agent orchestration and RAG, managing subscription systems and user classification.
- Implemented short-term memory management and microservice administration on Azure, ensuring conversational context persistence across sessions.
- Designed an Event-Driven Architecture (EDA) for real-time interaction and webhook monitoring, ensuring reliable message processing at scale.
- Contributed to the development of a complementary iOS app for student progress monitoring, integrating learning metrics with the conversational backend.

01/2020 -02/2022

## MESURTO

CTO | SOFTWARE ENGINEER

- Designed a dynamic pricing engine using Bayesian networks, correlating geographic demand, quality, and zone uncertainty — optimizing producer margins across 3 cities.
- Developed chatbots and automation flows with LLMs, reducing manual operational tasks and improving customer response times.
- Optimized databases and built automated dashboards for monthly/annual reporting, reducing report generation time from days to hours.
- Implemented ML algorithms for geolocation of restaurants and suppliers, building an intelligent operations framework that improved supply-chain logistics efficiency.
- Managed cloud architecture on AWS (AWS Startups program) and led the company's technology strategy, taking the product from concept to production.

## EDUCATION

### B.Eng. in Information Technology and Digital Business

Universidad Anahuac Mayab  
2021 - 2026

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## LANGUAGES

- Spanish — Native
- English — Intermediate (working proficiency)