

Rodrigo Solbes

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SUMMARY

Software developer with 3+ years building full-stack applications, data pipelines and IT infrastructure. Currently building production machine learning inside an enterprise .NET ERP while completing a Computer Engineering degree (GPA 9.13/10). Bilingual English/Spanish, with a track record of turning conflicting business requirements into working software for non-technical stakeholders. Currently building an LLM-based text-to-SQL and RAG system for my thesis.

EXPERIENCE

Software Developer (official title: Auxiliar de Sistemas) — Unitam Uniformes

Tampico, MX · Jul 2026 – Present

Full-time software development on the company's core .NET ERP, serving ~100 branches.

- Built a customer-churn system that ranks accounts by probability of lapsing, with monthly batch scoring written back to SQL Server and surfaced in the ERP's reporting module. Trained on 385K customer-month snapshots from 7 years of invoice history (136K customers, 855K tickets, 104 branches).
- Reached 0.617 PR-AUC vs. 0.567 for the recency heuristic previously used, and cut Brier score from 0.260 to 0.167 so the displayed risk percentage is calibrated, not merely ordinal (30.5% base rate).
- Benchmarked a GRU over raw monthly sequences against LightGBM on RFM features; shipped LightGBM despite the GRU's marginally higher PR-AUC because it was better calibrated and far cheaper to serve.
- Enforced leakage-safe evaluation: time-based train/validation/test splits, forward-computed recency, and one shared feature function for training and scoring to prevent train/serve skew.
- Integrated bank payment terminals (BBVA, Banamex) into the ERP's point-of-sale module (in bank certification), and built an automated order-generation interface for a key corporate client.
- Developed business reports in C# across a five-layer architecture; optimized T-SQL stored procedures, resolving query timeouts and data-attribution bugs in regional sales reporting.
- Led requirements gathering with marketing, commercial and finance stakeholders; delivered the technical assessment that ruled out a TikTok Shop / Shopify / ERP integration.

Python, LightGBM, PyTorch, C#, .NET, SQL Server, T-SQL, Git

Software Developer & IT Consultant — Solbes Soluciones Inteligentes

Tampico, MX · Feb 2025 – Dec 2025

- Ran an independent practice serving local businesses end to end, from requirements through deployment and support: software projects plus IT and security infrastructure.
- Built point-of-sale applications with inventory management and reporting; wrote process-automation scripts that reduced manual data entry by 60%. Deployed servers, networks and camera systems for SMBs.

Python, TypeScript, Angular, Flask, PostgreSQL, Docker

IT Infrastructure — CIYASA S.A. de C.V.

Part-time · Jan 2023 – Sep 2025

- Sole IT resource for the company's offices: maintained local servers at ~99% uptime and built a redundant dual-ISP network eliminating single points of failure.
- Developed internal Python tools for system monitoring and automation, plus documentation portals.

Python, Linux, GCP, networking

EDUCATION

B.Eng. Computer Systems Engineering — Universidad Autónoma de Tamaulipas

Aug 2022 – May 2027 (expected)

- GPA 9.13/10.00 (Ingeniero en Sistemas Computacionales).
- Coursework: linear algebra, probability and statistics, numerical methods, algorithms, operating systems, databases.
- 1st place (team): CTF MetaRed Mexico National Championship 2025; ANIEI CTF at ANUIES-TIC 2025.

Academic Exchange, Computer Engineering — Universidad de Burgos, Spain

Jan 2026 – Jun 2026

- Data mining (classification, clustering, association) in Python; network analysis with NetworkX; reverse engineering and refactoring of Java codebases against quality metrics.

PROJECTS

- **Natural-Language Querying of Public Budget Data** (thesis, in progress) — Text-to-SQL and RAG system with query routing and abstention. Built so far: a PostgreSQL star schema with 1.28M reconciled fact rows across 6 fiscal years, a least-privilege query role (11/11 security checks), and a hand-verified evaluation set with bias controls. Python, PostgreSQL, sqlglot.
- **Real Estate Management System** — Public property-search portal and admin dashboard. Angular, Flask, PostgreSQL, Docker.
- **Smart Home Automation** — ESP32 sensor network with a Firebase real-time dashboard.
- **OS Simulators** — Memory manager (FIFO paging, TLB) and CPU scheduler (FCFS, SJF, RR, Priority) with live visualization. C, GTK.

SKILLS

Languages: Python, C#, C, Java, TypeScript, JavaScript, SQL

ML & Data: LightGBM, PyTorch, scikit-learn, pandas, NumPy; LLMs (text-to-SQL, RAG, evaluation design); feature engineering, model evaluation and calibration, ETL

Data & Infra: SQL Server, PostgreSQL, Firebase, Docker, Linux, Google Cloud Platform, Git

Spoken: Spanish (native) · English (native/bilingual)

Certifications: Google Cybersecurity; Microsoft Azure Data Fundamentals; Certiport: Generative AI Foundations, IT Specialist Databases (2026)