Roberto Isaac Forzán Aguirre

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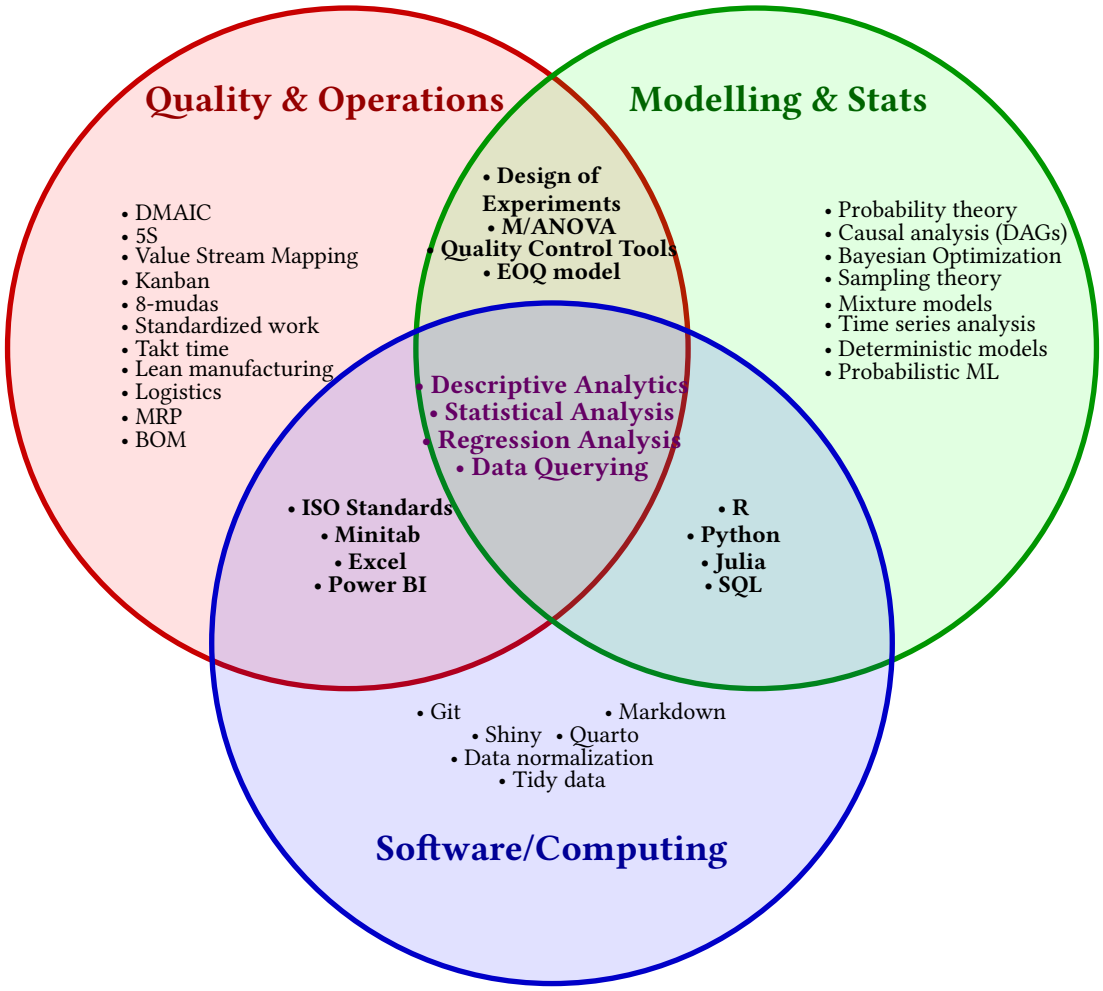
Skills Summary

Bioengineer with a specialization in Bayesian statistics; I can work with the dynamic systems, as well as measuring uncertainty of any procedure, conduct experiments. I can dwell with the touching grass matters of dealing with people nicely, being a force of words-aspiration and making decisions under uncertainty. I am big on computer science (part of it is programming) given that I believe that a modern engineer must be at least computer-minded, and yes, I bought the idea of the engineer as a problem solver. Open to relocation

Skills Portfolio



Quality & Operations Skills Modelling & Stats Software/Computing

Skills in intersections represent competencies that bridge multiple domains

Specializations

Sep 2025 - Currently **[S8] Supply Chain Management Specialization**
Rutgers Universit on Coursera

Sep 2025 - Currently **[S7] Lean Six Sigma Specialization**
Tecnológico de Monterrey

Jul 2025 - Currently **[S6] Algorithms Specialization**
Stanford University on Coursera

Feb 2025 - Currently **[S5] Introduction to Logic and Critical Thinking Specialization**
Duke University on Coursera

Feb 2025 - Jul 2025 **[S4] R Programming and Tidyverse Specialization**
University of Colorado Boulder on Coursera

Mar 2025 - May 2025 **[S3] Mathematics for Machine Learning Specialization**
Imperial College London on Coursera

Feb 2025 - Mar 2025 **[S2] Statistical Analysis with R for Public Health Specialization**
Imperial College London on Coursera

Jul 2024 - Feb 2025 **[S1] Bayesian Statistics Specialization**
University of California, Santa Cruz on Coursera

Courses

Jul 2025 - Currently **[C6] Statistical Molecular Thermodynamics**
University of Minnesota on Coursera

Aug 2025 - Sept 2025 **[C5] Data Analytics for Lean Six Sigma**
University of Amsterdam on Coursera

Sept 2025 - Sept 2025 **[C4] Introducción a la calidad**
Universidad Nacional Autónoma de México on Coursera

Mar 2025 - May 2025 **[C3] Probabilistic Graphical Models 1: Representation**
Stanford University on Coursera

Mar 2025 - Mar 2025 **[C2] Practical Time Series Analysis Course**
The State University of New York Boulder on Coursera

Nov 2024 - Nov 2024 **[C1] Diplomado en NOM-059-SSA1-2015**
BIOCORE

Experience

Inventory Planning Challenge Sep 2025 - Nov 2025
Global Competition
I am using a probabilistic forecasting model for the demand of 599 products with the objective of minimizing inventory costs and provide the best service level by placing the optimal order quantity to suppliers each week. Link

Stochastic Inventory Modelling: A Tutorial for Dummies using R Sep 2025 - Sep 2025
Own Project
Simulated a small company warehouse with EOQ model making demand and lead time random variables for more accurate order quantities to ensure a great service level. Link

Production Chain Analyst Feb 2024 - Jul 2024
Semester Project
Defined the production chain for recombinant proteins, a key component of the future pharmaceutical industry, while identifying critical control points. Gained hands-on experience in unit operations, particularly filtration and chromatography.

Speaker Jul 2022 - Jul 2022
Expo Ingenierías TEC
Presented the experimental design for the production of a blue pigment (indigoidine) from an engineering perspective. Essentially, I addressed the question: *"How do you manipulate a biological system to produce eco-friendly paint?"*

Lecturer Feb 2022 - Jun 2022
Social Service

Conducted an existentialism reading session for senior citizens, focusing on two key authors: Jean-Paul Sartre (his theory of shame) and Albert Camus (his famous essay *The Myth of Sisyphus*)

Experimental Design

I contributed to multiple experimental research projects for the Bioengineering Department, serving as an **experimental designer**, including:

- Organic Waste Pretreatment for Biofuel Production at Central de Abastos Aug 2023 - Dec 2023

Identified pretreatment as the key bottleneck in bioethanol production. Developed a Bayesian probabilistic model alongside experimental work to address the issue. Null hypothesis was confirmed.

- Improvement of Chemical-Quantitative Sugar Analysis Techniques Feb 2024 - Jul 2024

Attempted (unsuccessfully) to innovate the Lane-Eynon method by enhancing sugar precision/selectivity via electrical conductivity. However, I successfully replicated a recent reinvention using a Benedict's solution spectrometer—a green chemistry approach. Project conducted independently.

- Process Optimization for Mezcal Production at Nitzuga Mezcalería (In Situ) Oct 2023 - Dec 2023

Optimized a distillation setup to reduce losses, energy consumption, and distillation time. Ultimately, the proposed system aligned with methods used in whiskey production. Key takeaway: *Many solutions already exist—innovation doesn't always require starting from scratch.*

- In Vitro Germination of Agave potatorum (In Vitro) Sep 2023 - Oct 2023

Lead, planned, and designed a factorial experiment to increase the germination rate of a wild agave species.

Interests

•Mathematical & Statistical Modeling • Computational science • Logic & Probability Theory • Quality • Supply Chains & Operations • Extreme sports: scuba diving & skiing