Roberto Isaac Forzán Aguirre

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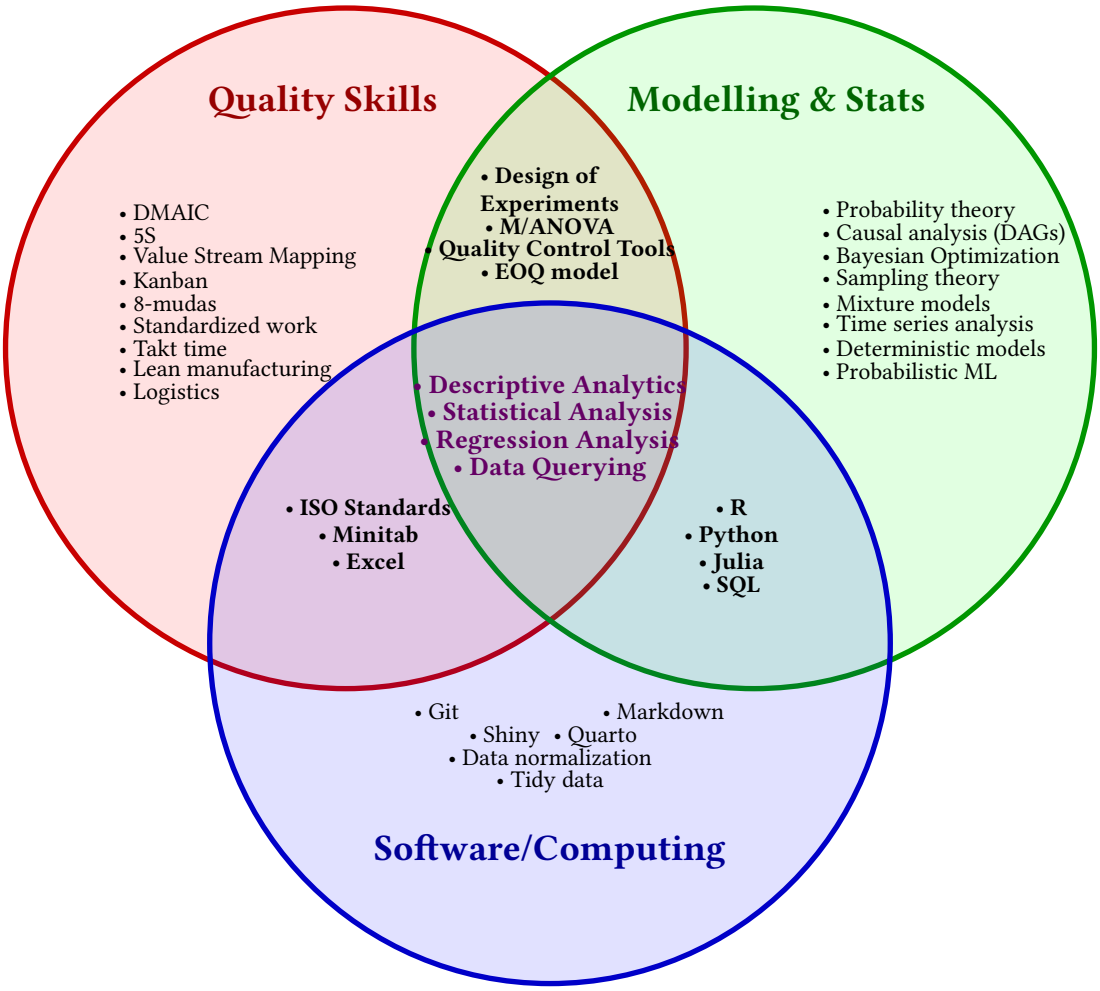
Summary

I am a Bioengineer with a specialization in Bayesian statistics; I can work with the dynamic systems, as well as measuring uncertainty of any procedure, conduct experiments, also 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.

Skills Portfolio



Quality Skills Modelling & Stats Software/Computing

Skills in intersections represent competencies that bridge multiple domains

Specializations

Sep 2025 - Currently **[S9] Supply Chain Management Specialization**
Rutgers Universit on Coursera

Sep 2025 - Currently **[S8] Lean Six Sigma Specialization**
Tecnológico de Monterrey

Jul 2025 - Currently **[S7] Algorithms Specialization**
Stanford University on Coursera

Feb 2025 - Currently **[S6] Introduction to Logic and Critical Thinking Specialization**
Duke University on Coursera

Feb 2025 - Mar 2025 **[S5] Statistical Analysis with R for Public Health Specialization**
Imperial College London 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

Expirience

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 Ingenieras 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

Led, 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