

# Roberto Isaac Forzán Aguirre

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## SUMMARY

Proud bioengineer with proven problem-solving skills in team environments. Guided by core values of honesty, humility, and courage. Seeking to leverage risk assessment, management and quality expertise to drive success in challenging industries. Bayesian statistician and programmer enthusiast.

## EDUCATION

<b>Tecnológico de Monterrey</b> <i>Biotechnological Engineer</i>	Campus Estado de México <i>Aug 2021 — June 2025</i>
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## COURSES & SPECIALIZATIONS

<b>Supply Chain Management Specialization</b> Rutgers Universit on Coursera	Sep 2025 — Currently
<b>Lean Six Sigma Specialization</b> Tecnológico de Monterrey	Sep 2025 — Currently
<b>Algorithms Specialization</b> Stanford University on Coursera	Jul 2025 — Currently
<b>Statistical Molecular Thermodynamics</b> University of Minnesota on Coursera	Jul 2025 — Currently
<b>Introduction to Logic and Critical Thinking Specialization</b> Duke University on Coursera	Feb 2025 — Currently
<b>Data Analytics for Lean Six Sigma</b> University of Amsterdam	Aug 2025 — Sept 2025
<b>Introducción a la calidad</b> Universidad Nacional Autónoma de México	Sept 2025 — Sept 2025
<b>R Programming and Tidyverse Specialization</b> University of Colorado Boulder on Coursera	Feb 2025 — Jul 2025
<b>Mathematics for Machine Learning Specialization</b> Imperial College London on Coursera	Mar 2025 — May 2025
<b>Probabilistic Graphical Models 1: Representation</b> Stanford University on Coursera	Mar 2025 — May 2025
<b>Statistical Analysis with R for Public Health Specialization</b> Imperial College London on Coursera	Feb 2025 — Mar 2025
<b>Practical Time Series Analysis Course</b> The State University of New York Boulder on Coursera	Mar 2025 — Mar 2025
<b>Bayesian Statistics Specialization</b> University of California, Santa Cruz on Coursera	Jul 2024 — Feb 2025
<b>Diplomado en NOM-059-SSA1-2015</b> BIOCORE	Nov 2024 — Nov 2024

## TECHNICAL SKILLS

- **Programming Languages:** R, Python, Julia, Matlab, SQL
- **Softwares:** Excel, Minitab, SolidWorks, Quarto
- **English:** B2-Linguaskill Business Cambridge

- **Oratory:** Theater

## EXPERIENCE

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**Stochastic Inventory Modelling: A Tutorial for Dummies using R** Sep 2025 — Sep 2025  
Academic Project Simulated a small company warehouse with EOQ model making demand and lead time random variables.  
<https://isaacforzan.github.io/IsaacSite/blog/2058-09-04-stochastic-beer-inventory-case/>

**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

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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** (<https://youtu.be/jD6r-0-6dU4?si=CLLtEellmixTmQwm>) 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)** ([youtu.be/B8WxHloMQk4](https://youtu.be/B8WxHloMQk4)) 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)** ([youtu.be/YbEW57PyDHc?si=OU82nxs9OkHDPAGC](https://youtu.be/YbEW57PyDHc?si=OU82nxs9OkHDPAGC)) Sep 2023 — Oct 2023

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

## INTERESTS

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