

# Cristóbal Estrada Salinas

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## EDUCATION

### Tecnológico de Monterrey

B.S. Data Science and Mathematics - GPA: 94.0/100

Jalisco, MX

Aug. 2022 – Current (exp. June 2026)

## EXPERIENCE

### Undergraduate Research Assistant - Fetal Anomaly Detection

July 2024 – Present

Tecnológico de Monterrey

Guadalajara, Jalisco

- Developing machine and deep learning models for neonatal analysis and anomaly detection, contributing to advanced medical research.
- Utilizing PyTorch and implementing Convolutional Neural Networks (CNNs) for ultrasound analysis, optimizing image processing and diagnostic accuracy.

### Undergraduate Research Assistant - Behavioral Activity Analysis

Nov. 2024 – Present

Tecnológico de Monterrey

Guadalajara, Jalisco

- Developing ML models to analyze motor activity patterns in patients with depression and healthy controls, utilizing actigraphy data and MADRS scores for state classification, severity prediction, and sleep analysis.
- Designing and validating models in Python with libraries like scikit-learn and TensorFlow, ensuring robust performance through metrics such as Precision, Recall, F1-score, and MCC.

### On Campus Intern - Applied Sciences Department

Sep. 2024 – Present

Tecnológico de Monterrey

Guadalajara, Jalisco

- Identifying and recruiting prospective students for Applied Sciences School degrees like B.S. Industrial Physics, B.S. Data Science and Mathematics, and B.S. in Nanotechnology, promoting opportunities in cutting-edge fields.
- Facilitating workshops on AI, programming basics, and machine learning for high and middle school students, inspiring future talent to pursue impactful STEM careers.

## PROJECTS

### Personal Financial Advisor

Sept 2024

| Python, OpenAI API, Streamlit

- Developed an interactive web application for simulating financial data, analyzing spending patterns, and generating personalized financial plans.
- Implemented data visualization for financial insights using pandas and Plotly, enhancing user understanding of spending and saving behavior.
- Leveraged OpenAI API to simulate user financial data and provide tailored recommendations for budgeting, investments, and debt management.

### Cardiac Arrest Predictor Using Non-Supervised Learning

Nov 2023

| Python, KMeans Clustering, Mean-Shift Clustering

- Applied K-Means and Mean-Shift clustering algorithms to identify heart attack risk clusters from patient data.
- Utilized Python and scikit-learn for data preprocessing, clustering, and visualization of patient characteristics.
- Successfully identified distinct patient subgroups based on age, heart rate, and ST depression, demonstrating the potential of unsupervised learning in healthcare.

## EXTRA CURRICULAR SKILLS

### TOEFL IBT - 93/120

Sep 2024

EXECUTRAIN Guadalajara

### IASSC Certified Lean Six Sigma Yellow Belt

May 2023

Lean Six Sigma

## TECHNICAL SKILLS

**Languages:** Python, R, SQL, C++

**Developer Tools:** Tableau, Git, Jupyter Notebook, VS Code, Visual Studio, PyCharm, Spyder, R Studio, PyTorch

**Libraries:** Pandas, NumPy, Scikitlearn, Simpleai, SciPy, Pytest, TensorFlow