

Cristobal Estrada Salinas

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EDUCATION

Tecnologico de Monterrey

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

Jalisco, MX

Aug. 2022 – Current (exp. June 2026)

EXPERIENCE

Undergraduate Research Assistant - Behavioral Activity Analysis

Nov 2024 – Present

Tecnologico de Monterrey

Guadalajara, Jalisco

- Implemented multiple ML classifiers on time-segmented activity monitor data, achieving 80.7% classification accuracy with Gradient Boosting and developing three analytical approaches (whole-day, two-segment, three-segment) to distinguish between control and condition groups.
- Leveraged feature engineering and comprehensive model evaluation to optimize classification performance, improving model accuracy by 5% through identification of optimal time windows.
- Research paper currently in development with plans for submission to a machine learning and healthcare journal, demonstrating potential contribution to mental health monitoring techniques.

On Campus Intern - Applied Sciences Department

Sept 2024 – Present

Tecnologico de Monterrey

Guadalajara, Jalisco

- Identifying and recruiting prospective students for cutting-edge Applied Sciences programs (B.S. Industrial Physics, B.S. Data Science and Mathematics, B.S. Nanotechnology), effectively communicating complex technical career paths and opportunities to diverse student audiences.
- Designing and facilitating engaging workshops on AI, machine learning, and programming fundamentals for middle and high school students with no prior technical background, translating complex concepts into accessible learning experiences.
- Developing instructional materials and interactive demonstrations that effectively introduce advanced STEM concepts to groups of 20-30 students, fostering enthusiasm and promoting further exploration in technical fields.

PROJECTS

Personal Financial Advisor

Sept 2024

| Python, APIs, Financial Forecasts

- Developed an interactive financial planning application using Streamlit and OpenAI that simulates financial data, analyzes spending patterns, and predicts future expenses, ranking among the top three entries in the Capital One Contest at HACK MTY 2024.
- Engineered a comprehensive financial recommendation system with interactive visualizations and natural language processing capabilities, generating personalized financial plans based on user-defined goals and answering complex financial questions.

Cardiac Arrest Predictor Using Unsupervised Learning

May 2024

| Python, Clustering, Healthcare

- Developed an unsupervised machine learning solution to identify heart attack risk patterns in patient data, implementing K-means and Mean-Shift clustering algorithms with RandomOverSampler for balanced class distribution.
- Applied exploratory data analysis and feature selection techniques to identify key health indicators, successfully creating a two-cluster patient segmentation with consistent results across both algorithms despite challenging dataset characteristics.

TECHNICAL SKILLS

Programming: Python, R, SQL, C++ — **ML/AI:** PyTorch, TensorFlow, Scikit-learn, NumPy, Pandas —

Visualization: Tableau, Matplotlib — **Tools:** Jupyter, Git, Flask, FastAPI — **Certifications:** TOEFL IBT (93/120), Lean Six Sigma Yellow Belt