

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

Data Science Intern

Functionize AI

Aug 2025 – Present

San Francisco, CA - Remote

- Develop and deploy containerized web applications using Docker for interactive data visualization and analysis of Firestore NoSQL databases, enabling streamlined access to enterprise data.
- Create performance analysis dashboards and infographics for agentic AI models, translating complex model metrics into possible adjustments parameters for machine learning teams.
- Implement Model Context Protocols with Anthropic's Claude API to enable natural language databases querying and automated insights generation from enterprise data sources.

Research Assistant - Behavioral Activity Analysis

Tecnologico de Monterrey

Nov 2024 – Present

Guadalajara, Jalisco

- Implement multiple ML classifiers on time-segmented activity monitor data, achieving 80.7% classification accuracy with Gradient Boosting and develop three analytical approaches (whole-day, two-segment, three-segment) to distinguish between control and condition groups.
- Leverage feature engineering and comprehensive model evaluation to optimize classification performance, improving model accuracy by 5% through identification of optimal time windows.
- Research paper currently under revision from IEEE Journal of Biomedical and Health Informatics for its Cross-disciplinary research in informatics for neural, mental and psychological health special issue.

PROJECTS

Climate Change Time Series Forecasting - NASA GISTEMP

June 2025

| Time Series Forecast, ARIMA Modeling, Climate Analytics

- Conducted comprehensive time series analysis on 145 years of NASA GISTEMP global temperature anomaly data (1880-2024), performing data preprocessing, stationarity testing using Augmented Dickey-Fuller tests, and developed optimal ARIMA(0,1,2) forecasting model using Box-Jenkins methodology with AIC criterion (-198.79), achieving MAE of 0.28°C and RMSE of 0.34°C on test set.
- Generated 6-year climate projections (2025-2030) forecasting sustained temperature anomalies of 1.13°C above 20th century baseline, demonstrating global temperatures are critically approaching the 1.5°C Paris Agreement threshold and supporting urgent climate action with statistically validated uncertainty intervals and comprehensive residual diagnostics.

Anemia Level Prediction in Children using Classification Methods

May 2024

| ML Classification, Medical Data Analysis, KNN

- Conducted comprehensive data preprocessing and exploratory analysis on medical anemia dataset, implementing missing value removal, categorical-to-numerical variable transformation, and RandomOverSampler for class balancing, resulting in 7,392 training and 2,464 test samples with optimized feature engineering including age groups, residence type, and educational levels.
- Developed and compared three supervised learning classification models (SVC, KNN, Random Forest) with RandomizedSearchCV hyperparameter tuning, achieving superior performance with Random Forest Classifier obtaining 95% precision, recall, and F1-score, outperforming SVC and KNN models —both 92% metrics— with comprehensive confusion matrix validation for medical diagnosis applications.

TECHNICAL SKILLS

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

Visualization: Tableau, PowerBI, Matplotlib — **Tools:** Jupyter, Git, FastAPI, Docker — **Certifications:**

TOEFL IBT (93/120), Lean Six Sigma Yellow Belt