Axel Quiroga Caldera

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## Personal Profile

Final-year Data Science student experienced in data-driven roles, applying programming and machine learning to build predictive models and automate processes. Looking to deepen my understanding of AI and use it in innovative solutions for organizations.

## EDUCATION

## Tecnológico de Monterrey

Monterrey, NL

B.S. in Data Science and Mathematics Engineering

2021 - 2025

• Events and Competitions: HackMTY (2021), Datathon (2023), Engineering Expo (2023), National School of Optimization and Numerical Analysis (2023), Cemex Hacks (2024).

### Experience

Ikusi Monterrey, NL

Sales and Analytics Intern

September 2024 - December 2024

- o Approval Automation: Reduced time in interdepartmental approvals by designing and implementing an automated workflow using Power Automate.
- o Data Pipeline: Developed a data pipeline integrating Salesforce, Power Automate, Python, and a custom-built SQL database hosted on a server I configured and deployed. Automated the extraction of Salesforce data via email triggers, processed it using Power Automate, and transformed it with Python before storing it in the database. This pipeline improved data accessibility and streamlined workflows.

Cemex Monterrey, NL

IT Energy Analyst Intern

September 2023 - September 2024

- o Automations: Streamlined automation across multiple areas using Python and Power Automate, reducing manual labor by up to 15%. Additionally, developed various web scraping tools to ensure up-to-date data from numerous
- Forecast: Contributed to developing a multivariate model using LSTM to predict energy prices, enabling optimal consumption strategies and identifying cost-effective hours.
- Full-Stack Development: Accelerated the full-stack development utilizing HTML and JS of the Operations and Energy web platform, implementing user roles, permissions, and plant energy consumption authorization. Contributing to a unified platform to manage and monitor energy consumption, reducing time allocation by 22% and creating a seamless transition into the energy market.

Pogen Monterrey, NL

Data Analytics Intern

March 2023 - September 2023

- o Affluence Index: Redesigned and implemented the index used to quantify growth in mall foot traffic, resulting in more accurate reports and insights for clients.
- Anomalies Detection: Consolidated multiple processes using Isolation Forest and Z-Score metrics to create a data quality validation process, enabling error detection and information loss in mall sensors across Mexico.

#### Projects

Secure Website Development for Migrant Shelter: Implemented the back-end in Python to create a web platform to manage migrant data, including database connections and data encryption, using the AES-256 algorithm for secure storage. Developed a migrant lookup function using Levenshtein distance to reduce name errors. Integrated a Power BI dashboard to visualize and manage key metrics. Developed a predictive model to forecast migrant trends for better planning.

# SKILLS

- Programming Languages: Python, SQL, R.
- Libraries: TensorFlow, Scikit-Learn, Pandas, Numpy, Matplotlib, Selenium, Requests, Streamlit.
- Languages: Spanish (Native), English (Advanced Proficiency), French (Elementary Proficiency).