



# ALEJANDRO VARGAS

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## Profile

Passionate about data, focused on extracting meaningful insights and bringing clarity to complex problems. Experienced in data collection, preparation, analysis, visualization, and modeling using leading Python and R libraries. Quick learner with a strong aptitude for problem-solving, eager to contribute to a dynamic and collaborative environment.

## Projects / Experience

### E-commerce Recommendation Engine

Jun 2025 – Aug 2025

TensorFlow · Pandas · MySQL · Numpy · Optuna · FastAPI · Apache Airflow · Gradio · Docker

End-to-end implementation of a deep learning-based recommendation system with TensorFlow Recommenders, achieving **55% accuracy** in predicting correct products within top-50 recommendations.

**Demo:** [huggingface.co/spaces/sagravela/ecommerce-recommendation-system](https://huggingface.co/spaces/sagravela/ecommerce-recommendation-system)

**Repo:** [github.com/sagravela/recommendation-system](https://github.com/sagravela/recommendation-system)

### Sales Time Series Forecasting

May 2025 – Jun 2025

R · Tidyverse · Fable · Feasts · Fabletools · Quarto · Shiny

Forecasted **+3,500 time series** for multiple products and stores using ARIMA and STL+ETS predictive models, integrated into an interactive Shiny dashboard for real-time decision-making.

**Demo:** [sagravela.shinyapps.io/salesforecastr](https://sagravela.shinyapps.io/salesforecastr)

**Repo:** [github.com/sagravela/salesforecastr](https://github.com/sagravela/salesforecastr)

### AltScore Kaggle Competition

Mar 2025

Polars · GeoPandas · Scikit-learn · XGBoost · LightGBM · CatBoost · SHAP

Performed data collection, cleaning, feature engineering and trained ensemble tree-based models explained with SHAP. Ranked **Top-5 on public leaderboard**.

**Competition:** [kaggle.com/competitions/alt-score-data-science-competition](https://kaggle.com/competitions/alt-score-data-science-competition)

**Repo:** [github.com/sagravela/altscore-kaggle-competition](https://github.com/sagravela/altscore-kaggle-competition)

## Education

### Bachelor's degree in Geophysics

2016 – 2023

Overall Score: 8.68 / 10.0

FCEFN, UNSJ

**Relevant courses:** Linear Algebra, Statistics, Calculus 1–3, Programming, GIS Tools, Geospatial Data Analysis

## Tech Stack

- **Programming & Markup Languages:** Python, R, SQL, HTML, CSS, LaTeX
- **Machine Learning Frameworks:** TensorFlow, PyTorch, Keras, scikit-learn
- **Data Analysis:** Pandas, Polars, Numpy, PySpark, MS Excel
- **Data Visualization:** Matplotlib, Seaborn, Plotly, Shiny, Streamlit, Quarto, Tableau, Power BI
- **Utils:** Git, Docker, Scrapy, Selenium, BeautifulSoup, Apache Airflow

## Soft Skills

- Problem Solving
- Communication
- Team Collaboration
- Adaptability
- Time Management