Greater Vancouver, BC, Canada

MARCO BRAVO

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SKILLS

Society of Actuaries (Exams): Probability (P/1), Financial Mathematics (FM/2), Investment and Financial Markets (IFM/3F)
Programming: Python, R, C, SQL, Power BI, Excel (Visual Basic), Xpress IVE | Azure (Az-900), AWS
Libraries: Scikit-Learn, Pandas, NumPy, PySpark, PyTorch, Seaborn, TensorFlow, Plotly, Tidtyverse, Ggplot2, Statsmodels
Tools: JupyterLab, RStudio, git, Docker, VS Code, Hadoop, Slack, Murex (CRM), SAP S/4 HANA
Databases: MySQL, Microsoft SQL Server, PostgreSQL, Snowflake, MongoDB
Languages: English, Spanish, French

EXPERIENCE

Rio Tinto Group – MDS Capstone Project — *Vancouver, BC*
Data Science Consultant — Apr 2024 – Jun 2024

- Developed a global mining trends dashboard using **Python**, **Dash**, and **GIS**; integrated **Random Forest ML algorithms** to predict future drill holes, achieving **20% accuracy** in predicting next drilling locations by commodity and region. (bit.ly/drillsense)
- Presented insights to the board of directors, assisting the development of investment strategies based on **predictive modeling**.

DataKnow Consulting — *Mexico City, MX*
Data Science Consultant — Aug 2022 – Aug 2023

- Optimized **fraud detection models** for Grupo Bancolombia using clustering algorithms (**k-means, k-prototypes, DBSCAN**), improving high-risk customer identification accuracy by 25%. (bit.ly/AML-TF)
- Developed an **ETL** data pipeline to **extract** data from **Cloudera Impala**, perform **EDA**, analyze data quality, and **transform** data using **clustering models**. The pipeline **loads** results by selecting the best model, characterizing clusters using **OpenAI API**, and auto-generating **documentation**, reducing processing time by 50%.
- Built an **ETL pipeline** for **AstraZeneca** using **PyArrow** to **extract** data from **Redshift** (**SQL**), **transform** it with clustering models for insights into medicine sales and interactions, and **load** the results into **Power BI, reducing processing time by 30%.**
- Resolved 98% of discrepancies in **Zurich-Santander insurance** data using **PySpark** and **SQL**, reducing query costs by 50%.
- Developed **insurance pricing models** by using **R** and **ML algorithms (Neural Networks, Tree Analysis)** to identify and cluster high-potential value customers, based on segment and other variables to **optimize** premium pricing strategies.

Indra Minsait Business Consulting – Financial Services Division — *Mexico City, MX*
Analyst — Feb 2022 – Jul 2022

- **Validated** and **reconciled** cross-currency swaps and hedging models using **Monte Carlo Simulation** and **Black-Scholes** models.
- Automated IFRS 9-compliant accounting workflows with **VBA, Murex**, and **S/4 HANA**, reducing processing times by 80%.
- Conducted **reserve calculations** and ensured compliance with Mexican National Banking and Securities Commission (CNBV) regulations for Banorte Bank.

* *Other roles include: Data Analyst Internship, University Actuarial Sciences Professor, National Math Olympiad Trainer.*

EDUCATION

The University of British Columbia — *Vancouver, BC*
Master of Data Science (GPA: 91%) (**Graduation Date: November 2024**) — Jun 2024

- **MDS Program Scholarship**: Awarded for academic and leadership achievements.
- **Relevant courses**: Data Structures & Algorithms, Data Science Workflows, Data Visualization, Advanced Machine Learning.

Universidad de las Américas Puebla — *Puebla, MX*
Master's Degree in Corporate Finance, Specialization in Business Financial Management (GPA: 99%) — Dec 2021

- **Awards**: Summa Cum Laude
- **Relevant courses**: Quantitative Methods for Decision-Making, Business Economics, Corporate Leadership and Strategy.

Universidad de las Américas Puebla — *Puebla, MX*
Bachelor's Degree in Actuarial Sciences (GPA: 98%) — Jun 2020

- **Awards**: Magna Cum Laude & School of Science Scholar Award for highest marks in Actuarial Science.
- **Relevant courses**: Actuarial Mathematics, Bayesian Inference, Simulation, Optimization, Stochastic Modeling.

PROJECTS

Solar Savers (2024) (bit.ly/SolarSvrs)

- Developed a **Python-based GIS dashboard** using geospatial data aiming to help Canadian homeowners assess solar panel investments by calculating location-specific energy and financial savings.

Predicting Bank Marketing Success on Term Deposit Subscription (2023) (bit.ly/BankPred)

- Developed a **Logistic Regression model** (**AUC: 0.899**) with **resampling** and **feature engineering**, achieving high precision and recall in customer subscription prediction.