

# Ayume Milagres

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## PROFESSIONAL SUMMARY

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Data & analytics professional with a quantitative engineering background, leveraging Python, SQL, R, and Power BI to drive measurable business impact. Currently specializing in machine learning to transform complex data into enterprise-wide insights.

## EDUCATION & PROFESSIONAL DEVELOPMENT

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### Massachusetts Institute of Technology (MIT)

*Applied Data Science Professional Education*

Online

Ongoing – 2025

- Topics: Supervised/Unsupervised Learning, Time Series Forecasting, Causal Inference, Feature Engineering

### Grand Canyon University – Colangelo College of Business

Phoenix, AZ

*M.S. in Business Analytics — GPA: 4.0/4.0*

May 2023

- Coursework: Databases, Predictive & Prescriptive Analytics, Programming for Statistics, Data Mining

### Universidade Federal de Ouro Preto – Escola de Minas

Ouro Preto, Brazil

*B.S. in Control and Automation Engineering — GPA: 7.1/10*

Apr 2016

- Coursework: Calculus, Linear Algebra, Statistics, Optimization, Real-time Systems, AI, Robotics, Economics

## EXPERIENCE HIGHLIGHTS

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### Freeport-McMoRan

Safford, AZ

*Engineer I – Data & Analytics*

Jan 2024 – Present

- Led the governance of enterprise systems (FMS, SAP BO, SharePoint) supporting 150+ users across 5 departments. Improved data integrity to ~72% by reviewing and correcting input errors, ensuring compliance and achieving zero audit findings over 1.5 years.
- Orchestrated the design and deployment of SQL–Snowflake ETL workflows automating 50+ Power BI dashboards across production, forecasting, and asset performance leading to hundreds of hours of time saved annually. Created a validated source of daily reporting used by leadership to brief C-level executives and drive timely actions, contributing to a 10% lift in monthly throughput.
- Collaborated with the Data Science team to apply Python-based anomaly detection on 1-min IoT sensor streams, reducing faults by 67% and improving the reliability of data inputs for analytics and operational KPI measurement.
- Developed a simulation tool integrating financial and production data, uncovering a \$4M/year optimization opportunity that supported leadership's adoption of a new strategic planning process to improve resource utilization.
- Engineered a solution to convert system logs into actionable KPIs via SQL-Python pipelines; supported feasibility studies projecting 43% cycle time reduction.

### DataThinkLab

Remote

*Data Strategy Research Intern*

May 2023 – Aug 2023

- Analyzed 50+ global data initiatives to identify innovation trends and drive business value in hospitality analytics.
- Conducted an in-depth analysis of customer demographics, stay data, and review feedback to uncover nuanced patterns in guest behavior for a boutique hotel.
- Created 40+ storytelling visualizations in R and developed a comprehensive 50-page business case report, highlighting high-value guest segments and opportunities to optimize business strategy and maximize its revenue potential.

### Grand Canyon University

Phoenix, AZ

*Thesis Project – Churn Prediction*

Mar 2023 – May 2023

- Developed churn prediction models (Logistic Regression, KNN, Random Forest) achieving 88.2% accuracy and 93.4% F1-score.
- Built end-to-end pipeline for feature selection, validation, and reporting; translated results into recommendations potentially to reduce potential customer loss.

## TECHNICAL SKILLS

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**Programming:** Python (Pandas, NumPy, Seaborn, Plotly, scikit-learn), R (dplyr, ggplot2, caret), SQL

**Tools & Platforms:** Snowflake, Power BI, Databricks, Azure, SharePoint, Excel

**Machine Learning:** Classification, Regression, Time Series, Clustering, Anomaly Detection

**Data Visualization:** Interactive, static dashboards with Power BI and Plotly

**Other:** Communication, Stakeholder Reporting, Impact Framing, Business Acumen

**Languages:** English (Fluent), Portuguese (Native), Spanish (Intermediate)

**Internal Training (FCX):** SQL for Analytics (Top 3%), Power BI with DAX, Python for Data Exploration