

Carlos Fernando Juárez Pacheco

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Professional Profile

Applied Mathematics student with a strong focus on data analysis, statistics, and quantitative modeling. Hands - on experience using Python, R, Excel, Power BI, and SQL applied to data analysis, visualization, and finance - related projects.

Experience

Banco Nacional de Comercio Exterior, S.N.C. (Bancomext)

Social Service Intern – Business Development and Technical Assistance Department

April 2025 – September 2025

- Data cleaning, validation, and analysis of internal databases using Excel (Power Query, pivot tables, logical, lookup, and concatenation functions, and conditional formatting).
- Automation of administrative processes and reporting workflows using VBA macros.
- Preparation of financial reports and executive presentations in PowerPoint to support decision-making and performance tracking.

Universidad Nacional Autónoma de México (UNAM)

Teaching Assistant – Faculty of Sciences

August 2025 – Present

- Support in the preparation of academic materials and tutoring for advanced mathematics courses.
- Technical review and feedback on assignments and evaluations.
- Participation in courses such as Linear Algebra, Applied Mathematical Analysis, and Partial Differential Equations.

Education

Universidad Nacional Autónoma de México (UNAM), Faculty of Sciences

Bachelor's Degree in Applied Mathematics

August 2021 – December 2025

- Solid academic background in statistics, probability, programming, data modeling, and financial mathematics.
- **Degree completion in progress through a professional diploma program:** SQL and NoSQL Database Management in a Cloud Environment (IIMAS).

Selected Projects

- **Comparative Analysis of Romance Languages using NLP (July 2025)**
 - Statistical and semantic analysis of multilingual texts using entropy-based metrics and NLP techniques.
 - Generation of text embeddings using mBERT, XLM-RoBERTa, LaBSE, and SentenceTransformers.
 - Visualization of high-dimensional representations using t-SNE and UMAP.
- **Interactive Dashboard using the AdventureWorks Database (December 2023)**
 - Development of dashboards for sales, product, and customer analysis.
 - Data integration and transformation using Python (pandas) and SQL.
 - Interactive visualization with Dash and database connectivity via PyMySQL.
- **An Introduction to the Theory of Strongly Regular Graphs (December 2025)**
 - Academic project and thesis preamble focused on the spectral analysis of strongly regular graphs.
 - Study of eigenvalues, structural parameters, and classical examples such as Paley graphs.

Technical Skills

- **Python** (NumPy, pandas, polars, scikit-learn, sentence-transformers, Keras, SciPy, PyTorch, matplotlib, seaborn).
- **R** (tidyverse, ggplot2, rstanarm, rjags, regression and Bayesian models).
- **SQL** (Experience with PostgreSQL).
- **NoSQL** (MongoDB, Neo4j) (introductory usage).
- **Data Visualization & BI** (Power BI (DAX), Tableau, Looker Studio).
- **Data Processing & Reporting** (Advanced Excel: pivot tables, VBA macros; PowerPoint; Google Workspace; LaTeX).
- **Version Control** (Git, GitHub).
- **Cloud Computing** (Basic AWS: EC2, S3, Glue, Lambda).

Languages

- **Spanish:** Native.
- **English:** Upper - intermediate to advanced (B2). Frequent use of technical literature and documentation.
- **French:** Basic (A2).
- **Russian:** Basic (A2).

Soft Skills

- **Analytical:** Critical thinking, structured problem - solving, strong abstraction skills, fast learner.
- **Organizational:** Task prioritization, time management, resilience.
- **Interpersonal:** Collaborative teamwork and clear technical communication in academic and professional environments.

Certifications and Relevant Courses

- **Work Smarter with Microsoft Excel** – Microsoft / Coursera.
- **Artificial Intelligence Macrotraining (MeIA 2025)** – UNAM.
- **Tableau Fundamentals** – DataCamp.
- **Intermediate R** – DataCamp.