

# Carlos Fernando Juárez Pacheco

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🔗 Academic Profile    🌐 carlosferjuarez

## Professional Profile

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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

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### 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

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### 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

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- **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

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- **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

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

## Soft Skills

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- **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

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