Emmanuel Isaac Juárez Caballero

228-269-3914 — eisaacjc8@gmail.com — linkedin.com/in/isaac-caballero — github.com/eisaacjc



Summary — PhD Candidate in AI with 6+ years of experience developing and deploying end-to-end machine learning solutions. Experienced in Generative AI, building automated workflows. Specialized in creating data applications from scratch to provide real-time KPI monitoring and drive strategic decisions. Motivated to apply a versatile skill set in data science and engineering to solve business challenges.

Technical Skills

Programming & Data	Python, SQL, Pandas, PySpark, Numba, Julia, Matlab
ML & Deep Learning	Scikit-learn, PyTorch, TensorFlow, Statsmodels
Generative AI	LangChain, LLM Evaluation & Alignment, Anthropic API
Computer Vision	OpenCV, Ultralytics
DevOps & Tools	Flask, Git, Docker, Linux Shell, HPC

Experience

BBVA Mexico **May 2026 – Present**
Data Specialist Sr Manager *Mexico City*

- Leading NPS modeling using ML and AI for retail and PyME clients. Desing of multi-agentic solutions, linear models, innovation in metrics and research across different AACC.

NTT-DATA (Client: BBVA) **OCT 2025 – May 2026**
Professional Services Consultant (Data Scientist) *Mexico City*

- Designed an AI-driven workflow using classical parsing models and LLMs for SAS-to-Python process migration, reducing migration effort by approximately 67%.
- Migration and reengineering of Corporate & Institutional Banking SAS processes.
- Management of Data Availability processes through the SDM data model.

Outlier & Alignerr **2024 – 2025**
Freelance AI Model Evaluator *Remote*

- Specialized evaluation of large language models (LLMs) as a multi-domain expert: STEM, programming, and generalist evaluation in Spanish and English.
- Participation in AI safety projects including adversarial attacking and other model robustness evaluation techniques.
- Development of test cases and evaluation methodologies to improve the alignment and safety of generative AI systems.

Unified Workers' Union (SUTSEM) **2021 – 2025**
Data Scientist *Xalapa, Ver.*

- Designed an AI-driven workflow using the Anthropic API to automate the analysis and prioritization of critical events, reducing manual review tasks by approximately 20 hours per week.
- Developed a full-stack data application from scratch using Python (Flask), Dash, and HTML/CSS to monitor key operational metrics such as request volume, geographic distribution, and processing times.
- Implemented a secure multi-level role-based access control (RBAC) system for user, analyst, and administrator accounts, ensuring data security and adapting functionalities to user permissions.

Kuepa University **2023 – 2025**
University Lecturer *Remote*

- Taught advanced STEM courses to undergraduate students, receiving positive feedback for clarity and teaching effectiveness.

Universidad Veracruzana **2023, 2025**
University Lecturer *Xalapa, Veracruz*

- Taught physics courses to undergraduate students, including complex variable analysis, modern physics laboratory, and modern physics.

IEP & Garden College **2021 – 2023**
High School Teacher (Physics & Mathematics) *Xalapa, Ver.*

- Developed and delivered physics and mathematics curricula, preparing students for university-level studies.

Research & Notable Projects

IIIA, Universidad Veracruzana **2022**
Research Internship: Predictive Modeling for Asset Security

– Developed a predictive model using geospatial and time series data to forecast vehicle locations after GPS signal loss, aiming to assess and mitigate theft risk for logistics assets.

Institute of Physical Sciences, UNAM **2022**
Research Internship: Financial Markets Analysis

– Applied Random Matrix Theory to financial time series to detect market bubble formation and track risk levels across different financial sectors, identifying patterns analogous to avalanches in complex systems.

Education

Universidad Veracruzana, IIIA **2023 – 2027 (Expected)**
Ph.D. in Artificial Intelligence (Current GPA: 95/100, ≈ 3.8 GPA)
Research Focus: Evolutionary Computation, Quantum Computing, Quantum Machine Learning.

Universidad Veracruzana, IIIA **2021 – 2023**
M.Sc. in Artificial Intelligence (GPA: 96/100, ≈ 3.84 GPA)

Universidad Veracruzana, Faculty of Physics **2016 – 2021**
B.Sc. in Physics (GPA: 9.2/10, ≈ 3.68 GPA)

Publications

– **Textbook (Author):** *Física 1: Bachilleratos Técnicos* (2023), Seemargs Editorial.
– **Textbook (Author):** *Tópicos Selectos de Física II: Bachilleratos Generales* (2022), Seemargs Editorial.
– **Paper (Submitted):** *Eigenvalue Distribution from Configuration Matrices of CA* (2023), ArXiv.
– **Popular Science Article (Co-Author):** *From Murphy's Law to Quantum Storage...* (2020), La Jornada.
– **Popular Science Article (Author):** *Fractals: Patterns and Nature* (2019), UV Publishing.
– **Research Paper):** *Quantitative Comparison Between Heuristic and Automatic Design in Variational Quantum Circuits for MaxCut* (2026), CIAPP.