Fernando Meneses

Data Scientist | ML Engineer | Physicist (PhD)

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SUMMARY

With more than 10 years of experience in **Data Science** and **Machine Learning**, I am a skilled professional dedicated to solving complex problems by integrating **AI**, **statistical analysis** and the **scientific method**. I have successfully led international teams in developing and deploying advanced solutions, including **deep learning** models for **predictive analysis** and **computer vision** systems for geometric analysis of 2D images.

SKILLS

Machine Learning and AI: Deep learning | Computer vision | Time series forecasting | NLP | Classical ML
Programming and Tools: Python | TensorFlow | Pandas | NumPy | Scikit-learn | OpenCV | Matlab | Fortran
Data Analysis: Statistical modeling | Simulations | Hypothesis testing | Physical modeling
Visualization and BI: Matplotlib | Seaborn | Looker
Cloud and Big Data: Google Cloud Platform (GCP) | BigQuery | Dataproc | SQL
Soft Skills: Clear communication of technical results | Problem-solving | Cross-functional collaboration | Project leadership | Project management | International teamworking
Languages: English (C2, fluent) | Spanish (C2, native)

EXPERIENCE

AI Consultant – Prompt engineering and Model evaluation
Jan 2025 – Present
Outlier (Remote)

- Develop high-quality structured prompts and Physics problems to train and evaluate LLM models.
- Analyze model outputs to identify reasoning gaps and propose targeted improvements.
- Mentor junior consultants providing technical guidance and quality control for prompt engineering and evaluation workflows.

AI Research Lead – Nanotechnology Applications
Dec 2024 – Present
National University of Córdoba (Argentina)

- Implement Deep learning solutions to analyze complex physical systems and experimental data.
- Apply computer vision, statistical analysis and predictive modeling in projects with industrial relevance.
- Lead cross-functional teams, fostering a collaborative and goal-oriented research environment.
- Supervise junior researchers and students, providing mentorship in data analysis, scientific communication and project execution.

ML Project Lead – Quantum Sensing Applications
Mar 2022 – Nov 2024
ARC Centre for Quantum Computation and Communication Technology

- Managed end-to-end ML pipelines, using ETL and ELT workflows to process both structured and unstructured data.

- Collaborated with interdisciplinary teams to align model outputs with physical constraints and sensor requirements.
- Applied Business Intelligence principles to create clear dashboards and data visualizations that supported decision-making across the team.

Data Scientist – Quantum Systems and ML Integration
Feb 2021 – Feb 2022

The City College of New York (United States)

- Simulated synthetic datasets for training and validating machine learning models.
- Applied statistical analysis techniques to analyze complex experimental and simulated data.
- Engineered the interface between machine learning algorithms and quantum sensor hardware for seamless data ingestion.

Data Scientist – Materials Science and Nanotechnology
Mar 2015 – Mar 2020

National University of Córdoba (Argentina)

- Conducted advanced research on materials science and nanotechnology applications, leveraging data-driven approaches to solve complex scientific problems.
- Performed comprehensive statistical analyses on experimental and simulation data to extract meaningful insights and validate hypotheses.
- Collaborated with international research teams, coordinating data sharing and aligning project objectives across multidisciplinary groups.
- Developed and maintained robust codebases and related tools for data processing, modeling, and visualization.
- Managed project timelines, resources, and deliverables to ensure successful completion of research milestones.
- Communicated research findings to both technical and non-technical audiences through reports, publications, and public outreach initiatives.

EDUCATION

Physics PhD 2020

National University of Córdoba (Argentina)

Physics Degree 2015

National University of Córdoba (Argentina)

HIGHLIGHTED PROJECTS

Machine learning assisted tracking of magnetic objects using quantum diamond magnetometry

GitHub repository: https://fertmeneses.github.io/ML_QDM_Meneses_et_al/
Published research link: https://arxiv.org/abs/2502.14683

Toward deep-learning-assisted spectrally resolved imaging of magnetic noise

GitHub repository: https://fertmeneses.github.io/AI-quantum-noise-spectroscopy/
Published research link: https://doi.org/10.1103/PhysRevApplied.18.024004