

CARLOS PEREZ MENDOZA

Cell phone. [+1 438 346 2908](tel:+14383462908) | carlos.pmendoza3@gmail.com
<https://cpmendoza.github.io> | www.linkedin.com/in/octaviopm

Professional summary

AI Scientist with a Ph.D. in Mathematics & Statistics and 8+ years of experience developing end-to-end machine learning, reinforcement learning, and deep learning solutions. Proven track record of delivering scalable, production-ready AI systems that achieve measurable impact in quantitative finance, risk management, and healthcare. Skilled at bridging research and industry, translating advanced models into reliable products that drive decision-making and business value.

SKILLS & EXPERTISE

- Deep Learning - PyTorch, TensorFlow
- Reinforcement Learning
- NLP (Transformers)
- Probabilistic Modelling
- Statistical Modelling
- Predictive Modeling
- Data Management - Python, SQL, R
- Data Visualization
- Advanced Data Analysis

SELECT ACHIEVEMENTS

- Published in top peer-reviewed journals in AI, quantitative finance, actuarial science, and digital health, demonstrating expertise in applying ML and RL to high-impact problems.
- Developed predictive models for trading, risk, and fraud detection (improving forecasting precision by 5% and recovering 2.5% of monthly losses), delivering measurable financial and operational impact.

Professional Experience

Postdoctoral Fellow / AI Research & Applied Data Science
McGill University

Montreal, Canada
Since Oct 2024

- Design and implement end-to-end ML pipelines that achieve ~80% accuracy in cardiovascular disease screening and biomarker detection across multiple clinical trials, delivering actionable scientific reports to pharmaceutical partners, digital health companies, and other stakeholders.

Applied Research Scientist

JACOB - Centre d'intelligence artificielle appliquée, Direction Recherche & Innovation

Montreal, Canada
Mar 2023-Jul 2024

- Designed and implemented AI-driven pipelines for startup-investor matchmaking, startup recommendation, and wearable-based diabetes monitoring, leveraging NLP, web scraping, and deep learning (transformers), achieving accuracy rates of 83%, 85% and 87%, respectively.

Quantitative Research Analyst

Plant-E Corp, Algorithmic Trading Department

Montreal, Canada
Jul 2022-Nov 2022

- Developed and implemented machine learning-based methodologies for quantitative trading and electricity price forecasting in North American Power Markets, leveraging reinforcement learning to improve day-ahead and futures price forecasting precision by 5% while meeting regulatory requirements.

Presidential Advisor

Private Assistance Board of the Government of Mexico City

Mexico City
Oct 2020-Ago 2021

- Led ML projects to identify financial risk across 100+ Private Assistance Institutions in Mexico City, strengthening long-term sustainability. Implemented data-driven systems that enhanced board-level decision-making and reduced inefficiencies by 20%.

Head of the Office of Quantitative Health Plan Studies

Bank of Mexico (Central Bank of Mexico)

Mexico City
Nov 2017-Jan 2019

- Coordinated and designed actuarial models and automated data systems for the Bank of Mexico's medical service, optimizing resource allocation and improving operational accuracy by 30%, while strengthening long-term sustainability.

Market Research Analyst

Bank of Mexico (Central Bank of Mexico)

Mexico City
Mar 2015-Oct 2017

- Implemented anomaly detection and predictive models for the Bank of Mexico's medical service, preventing fraud with monthly recoveries of 2.5% of drug turnover, reducing annual health expenditures by 1.23%, and optimizing supplier performance to reach 98% drug coverage and 2.3% annual savings.

Education

Ph.D. Mathematics & Statistics | Concordia University, Canada | Sep 2021–Apr 2025

M.Sc. Mathematics, Mathematical Statistics & Probability | UNAM, Mexico | Jan 2019–Jul 2020

M.Sc. Modern Applications of Mathematics | University of Bath, UK | Jan 2020–Jul 2020

Specialist Degree in Financial Engineering | UNAM, Mexico | Aug 2021–Jul 2022

B.Sc. Actuarial Sciences – UNAM, Mexico | Aug 2010–Dec 2014

Graduate Diploma in Statistical Techniques & Data Mining | UNAM, Mexico | Jan 2016–Oct 2016

Certification & Training

Artificial Intelligence: An Overview Specialization (5 Courses) – Politecnico di Milano, 2023

Introduction to Data Science in Python – University of Michigan, 2020

Introduction to TensorFlow for AI, ML, and DL – DeepLearning.AI, 2019

Deep Learning Specialization (5 Courses) – DeepLearning.AI, 2018

Quantum Computing 101 – IBM, 2018

Microsoft Excel and Visual Basic for Applications (VBA)

Languages

English: Full Professional

French: Intermediate

Spanish: Native