Fernando Martinez-Lopez

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EDUCATION

Ph.D. in Computer Science   Aug 2024 – May 2028 | New York, USA
Fordham University
  Research: Artificial Intelligence (AI), Reinforcement Learning (RL), Machine Learning (ML), Game and Decision Theory.
  Roles: Research & Teaching Assistant (CISC 5790 Data Mining)

Master in Data Science - MSc   Jan 2022 – May 2023 | New York, USA
Fordham University ✎
  GPA: 4.00 / 4.00
  Relevant Courses: Cloud Computing, Big Data Computing, Blockchain Technology, Data Mining, Machine Learning, and Deep Learning.
  Roles: Research & Teaching Assistant (CISC 5835 Algorithms for Data Science & CISC 6745 Data Visualization)

Master of Business Administration - MBA   Mar 2021 – Mar 2022 | Washington, D.C., USA
Quantic School of Business and Technology ✎
  Grade: Honors

B.S. in Business Engineering   Aug 2014 – Apr 2018 | Santo Domingo, DR
Santo Domingo Institute of Technology (*INTEC*) ✎
  GPA: 3.81 / 4.00 | Summa Cum Laude
  INTEC Meritorious Scholarship (top 1% program)

SELECTED PUBLICATIONS

Stackelberg Coupling of Online Representation Learning and Reinforcement Learning ✎
Submitted to ICLR 2026 Main Track

In-Context Reinforcement Learning via Communicative World Models ✎
Submitted to AAAI 2026 Main Track

SPRIG: Stackelberg Perception-Reinforcement Learning with Internal Game Dynamics ✎
AAAI 2025 Workshop on Planning and Reinforcement Learning (PRL) - Bridging the Gap Between AI Planning and Reinforcement Learning

Admissions in the age of AI: detecting AI-generated application materials in higher education ✎
Nature Publishing Group UK, Scientific Reports

Redefining Cyber Resilience with Dual-Space Prototypical Networks for DDoS Attack Detection ✎
2024 33rd International Conference on Computer Communications and Networks (ICCCN)

GPT vs. Llama2: Which Comes Closer to Human Writing? ✎
Proceedings of the 17th International Conference on Educational Data Mining

Integrating Multiple Visual Attention Mechanisms in Deep Neural Networks ✎
2023 IEEE 47th Annual Computers, Software, and Applications Conference (COMPSAC)

Rediscovering the Particle-in-a-Box: Machine Learning Regression Analysis for Hypothesis Generation in Physical Chemistry ✎
Journal of Chemical Education, ACS Publications

INDUSTRY EXPERIENCE

Fordham-IBM Research Intern   May 2025 – Jul 2025 | New York, USA
Fordham University

Quantitative Modeling - AVP MUSA CCAR Capital Planning   Jul 2023 – Aug 2024 | New York, USA
MUFG Americas ✎
  - Led the development and implementation of the CCAR Capital Planning interconnected model suite framework, enhancing operational efficiency through automation and significantly reducing the risk of human errors.
  - Redeveloped CCAR quantitative models to improve performance and deploy new desk strategies, while upholding robustness and business soundness.
  - Conduct model validation, performance monitoring, and stress testing under severe input conditions, ensuring model resilience and robustness against extreme operational and market challenges.
  - Performed exploratory variable research to identify and integrate novel predictors, enhancing the current model suite's performance.

Data Scientist   Sep 2021 – Jul 2023 | New York, USA
Smart Energy ✎
  - Developed end-to-end Machine Learning models generating actionable business insights, enhancing marketing campaigns for 10,000+ Warm Leads
  - Hands-on data analyses, A/B experiments, and modeling over enormous datasets towards developing insights, recommendations, and presenting results to various stakeholders.

Data Scientist - Research and Analytics Office   Apr 2020 – Sep 2021 | Santo Domingo, DR
General Directorate of Internal Taxes 🔗
 - Created, validated, tested, and tuned Machine Learning algorithms to detect tax noncompliance, manage risk behavior profiles, reduce tax gaps, and build advanced analytics engines.
 - Produced analytics to provide stakeholders with data-driven insights for improved tax auditing (the action through which Tax Administrations seek to prevent taxpayers from incurring tax evasion or fraud) by aligning with defined business objectives.
 - Analyzed data and provided insights and actionable data-driven recommendations to stakeholders.

Data Analyst - Registry Office   Sep 2018 – Apr 2020 | Santo Domingo, DR
General Directorate of Internal Taxes 🔗
 - Implemented Digital Forms of the National Taxpayer Registry.
 - Designed and developed the new engine of automated tax assignation model for the Taxpayers' Registry based on the economic activities and the behavior of the taxpayers.
 - Gained knowledge and Hands-on experience in Python and usage of machine learning algorithms.

Project Analyst   Aug 2017 – Sep 2018 | Santo Domingo, DR
INABIMA
 - Establishment of a Risk-based Project Management System.
 - Social Impact evaluated by Statistic indicators implementation.

SKILLS

Programming Languages — *Python, R, SQL, Bash, C++, MongoDB, InfluxDB, Solidity*, **Python** — *Core, Debugging, Sklearn, NumPy, Pandas, Matplotlib, Seaborn, BeautifulSoup*, **Data Science, Big Data & Machine Learning** — *PyTorch, TensorFlow, Jax, PySpark, Snowflake, Deep Learning, LLMs, Computer Vision*, **Cloud Computing** — *Google Cloud Platform* (*GCP*)*, Azure, Docker, Kubernetes*, **BI** — *Power BI, Tableau, SSIS, ETL*, **Microsoft Office** — *Excel, VBA, PPT, Word, Outlook*

HONORS & AWARDS

AI Summer Research Fellowship   2025
GSAS Fordham University

GSAS Graduate Research Assistanship Award   2022
GSAS, Fordham University

Honors   2021
Quantic School of Business and Technology

Full International Scholarship (Fordham University)   2021
Ministry of Higher Education, Science, and Technology of the Dominican Republic

Full Scholarship   2021
Quantic School of Business and Technology

Summa Cum Laude   2018
Santo Domingo Institute of Technology

Meritorious Scholarship   2014
Santo Domingo Institute of Technology
  Awarded for top 1% program

VOLUNTEERING

AAAI 2026 Conference 🔗
Reviewer

INFOCOM 2025 - NGResNet 🔗
Reviewer

TECHO 🔗   Santo Domingo, Dominican Repubplic
Volunteer