

# Fernando Martinez-Lopez

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🌐 <https://www.linkedin.com/in/mlfernando> 📄 Google Scholar Profile

## EDUCATION

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### Ph.D. in Computer Science

Aug 2024 – present | New York, USA

Fordham University

**Research:** Artificial Intelligence (AI), Machine Learning (ML), Reinforcement Learning (RL), 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)

## INDUSTRY EXPERIENCE

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### 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.

### Graduate Research & Teaching Assistant

May 2022 – Jun 2023 | New York, USA

Fordham University

### 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 assignment 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

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**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, PySpark, Hadoop MapReduce, 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

## SELECTED PUBLICATIONS

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**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

## HONORS & AWARDS

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**GSAS Graduate Research Assistanship Award**

GSAS, Fordham University

2022

**Honors**

Quantic School of Business and Technology

2021

**Full International Scholarship (Fordham University)**

Ministry of Higher Education, Science, and Technology of the Dominican Republic

2021

**Full Scholarship**

Quantic School of Business and Technology

2021

**Summa Cum Laude**

Santo Domingo Institute of Technology

2018

**Meritorious Scholarship**

Santo Domingo Institute of Technology

2014

Awarded for top 1% program