

MONICA LAMA

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EDUCATION

THE WHARTON SCHOOL, UNIVERSITY OF PENNSYLVANIA

Philadelphia, PA

Master of Business Administration Candidate; Quantitative Finance

2026-2028

- **Coursework:** Finance, Accounting, Financial Derivatives, Stochastic Processes, Asset Pricing, Fixed Income Securities

UNIVERSITY OF PENNSYLVANIA

Philadelphia, PA

Bachelor of Science in Engineering, Major: Artificial Intelligence, Minor: Mathematics

2023-2027

- **Relevant Coursework:** Applied Machine Learning, Theory of Machine Learning, Statistics for Data Science, CNNs, Data Structures and Algorithms, Mathematics of Computer Science, Deep ML, Probability, Optimization, Database Systems, NLP
- **Club Membership:** Penn Quantum Computing Club, Competitive Programming @ Penn

EXPERIENCE

LLM RESEARCH - UNIVERSITY OF PENNSYLVANIA

Philadelphia, PA

Researcher

2025-Present

- Advised by Prof. Chris Callison-Burch in Natural Language Processing (NLP) and VLM research for dense image captioning.
- Co-authored research on positive transfer in multimodal caption training, contributing to dataset and experimental analysis.
- Led backend development and UI prototyping for a large-scale annotation platform supporting high-fidelity image captions.
- Developed Python-based data pipelines and vector database workflows to facilitate retrieval, annotation, and VLM fine-tuning.

CRYPTONEST.IO

Remote

ML Research & Development Intern

2025

- Developed LSTM- and Transformer-based forecasting pipelines for crypto asset modeling, supporting price prediction, signal generation, and backtesting workflows.
- Improved model performance by reducing MAPE by 15% and increasing F1 score by 12% through feature engineering, hyperparameter tuning, and iterative evaluation.
- Designed automated ML deployment workflows using CI/CD practices, reducing manual model release steps and improving reliability of production updates.
- Built predictive ML agents in a Kafka-based multi-agent system using LangGraph, facilitating real-time crypto signal generation, backtesting, and model orchestration.

SUPERINTENDENCIA DE BANCOS

Santo Domingo, DR

Software Intern

2024

- Built and deployed internal Python software tools to automate macroeconomic data processing using Python and SQL.
- Conducted residual analysis and model error handling to enhance production model reliability. Reduced consumer risk by enhancing model robustness through statistical error correction.
- Implemented linear regression and time-series forecasting models for economic risk assessment and consumer risk mitigation.

LEADERSHIP AND ACTIVITIES

ACCENTURE, Intern - Student Leadership Program (SLP)

Remote, 2025

- Selected for Accenture's SLP, participated in business simulations focused on tech-driven consulting and data analytics.

AI @ Penn, Founding member, President of Outreach

Philadelphia, PA, 2024-Present

- Co-founded Penn's first student organization focused on Large Language Models (LLMs) and AI research. Secured partnerships with Google, Apple, and Oracle to integrate research projects into production environments and academic collaborations.
- Led initiatives applying NLP and statistical modeling techniques for real-world language understanding challenges.

UPenn Weingarten Center Tutor

Philadelphia, PA, 2024-Present

- Provide tutoring for courses including Physics I, Multivariable Calculus, and Dynamic Systems.

Multivariable Calculus Teacher's Assistant (MATH 1410)

Philadelphia, PA, 2024

- Led recitation sessions to explain multivariable calculus for students.

ADDITIONAL INFORMATION

- **Technical Skills:** Python, Java, C++, OCaml, SQL, PostgreSQL, Git, Docker, GCP, FastAPI, Django
- **ML/AI:** PyTorch, TensorFlow, scikit-learn, XGBoost, Transformers, LSTMs, NLP, VLMs, RAG, Vector Databases
- **Data & Modeling:** Time-Series Forecasting, Regression, Classification, Backtesting, Monte Carlo Simulation, Pandas, NumPy, Matplotlib
- **Languages:** English (Native/Fluent), Spanish (Native/Fluent)
- **Interests:** Private Pilot, Poker, Marathon Running, Triathlons, Baking, Ceramics, Clash of Clans