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Monica Lama

EDUCATION

University of Pennsylvania, School of Engineering and Applied Science   *Philadelphia, PA | August 2023 - May 2027*

Accelerated Masters [MSE]: Robotics

Bachelor of Science in Engineering [BSE]: Major*:* Artificial Intelligence, Minors: Mathematics, Data Science

The Cushman School

High School Diploma   *Miami, FL | June 2023*

Valedictorian | SAT Scores: 1530, Math (780) / Reading & Writing (750)

SKILLS / TECHNICAL PROFICIENCY

Programing Languages: Java, OCaml, Python, SQL (Oracle SQL Developer), Qiskit, Bash

Frameworks & Libraries: NumPy, Matplotlib, Scikit-learn, OpenAI API, Qdrant, GitHub Actions, Docker

Tools & Software: Excel, SolidWorks, Adobe Premiere, Git, GCP, Vector Databases, Laser Cutting, 3D Printing

Technical Skills: Machine Learning, Predictive Modeling, Data Analysis, Time Series Forecasting, Natural Language Processing, LLM Pipelines, Speech Processing, Retrieval-Augmented Generation, Graph Theory, Numerical Optimization, Combinatorics, Probability, Game Theory, Quantum Computing

Relevant Coursework: Dynamic Systems, Probability, AI Lab: Data, Systems, and Decisions, Macroeconomics, Microeconomics, Algorithms and Data Structures, Discrete Mathematics, Data Science for Network Systems.

Languages: English (Native/Fluent), Spanish (Native/Fluent)

Interests: Private Pilot, Marathon Running, Triathlons, Baking, Ceramics, Clash of Clans

RELEVANT EXPERIENCE

Crypt0nest.io | *AI/ML R&D Intern*   *Remote| June 2025 - Present*

- Built GCP-based LSTM/transformer models with on-chain, sentiment & knowledge-graph data, cut MAPE 15% and lifted F1 12%.
- Automated CI/CD via GitHub Actions & Docker, shrinking deploy cycles from 2 hrs to <30 min.
- Authored reproducible R&D docs and code reviews that ramped 5 contributors in one week.
- Conducted competitor & user-needs analysis, steering model road-map and MVP feature priorities.

LLM Research - University of Pennsylvania | *Researcher*   *Philadelphia, PA | May 2025 - Present*

Advisor: Prof. Chris Callison-Burch

- Building a voice-first toolkit for dense image captioning—turning audio into rich training data for vision-language models.
- Prototyping UI and backend to annotate scientific, cultural, and 3D visuals with high-fidelity captions (Objaverse, Segment Anything).
- Shipping fast with LLM APIs, Python, and cloud tools to scale data collection and accelerate VLM development.

Superintendencia de Bancos| *Software Developer and Machine Learning Intern*   *Santo Domingo, DR | July 2024 - August 2024*

- Developed predictive economic models for currency exchange rates using Python, Oracle SQL Developer, and Excel.
- Enhanced model reliability between Dominican Peso and USD, reducing consumer risk factors.
- Implemented machine learning linear regression models to predict macroeconomic indicators for consumer risk-mediation.
- Gained experience working in a data-driven environment with mentorship from financial professionals.

Accenture Student Leadership Program (SLP) | *Student Intern*   *Remote | February 2025 - May 2025*

- Chosen from a highly competitive pool for Accenture's four-month SLP, where we participated in intensive workshops, business simulations, and case studies tailored to consulting and technology. Built a robust network through virtual coffee chats and learning sessions with industry leaders.
- Paired with a mentor who provided hands-on insights into technology and finance consulting, along with innovative business strategies.
- Built a robust network through virtual coffee chats, learning sessions, and "fire-side" chats with industry leaders.

University of Pennsylvania's Weingarten Center | *Tutor*   *Philadelphia, PA | May 2025 - Present*

- Tutor for PHYS 0150 (physics I), MATH1410 (Multivariable Calculus), ESE2100 (Introduction to Dynamical Systems)

Multivariable Calculus Teacher's Assistant (MATH 1410) | *Teacher's Assistant (TA)*   *Philadelphia, PA | June 2024 - July 2024*

- Facilitated recitation sessions and provided academic support to students as part of a leadership team

ORGANIZATIONS

AI @ Penn| *Founding member, VP of Outreach*   *Philadelphia, PA | September 2024 - Present*

- Co-founded Penn's first and only student organization focused on Large Language Models (LLMs).
- Leader of the Outreach Branch, securing partnerships with Google, Apple, and Oracle. Collaborating with Google, which has recently accepted our request to integrate our research into the Google Ecosystem. Collaborative research with Apple in NLP models.

Penn Quantum Computing Club - University of Pennsylvania | *Member*   *Philadelphia, PA | August 2024 – Present*

- Attend weekly workshops & hackathons on quantum algorithms and Qiskit programming; built and simulated variational circuits for quantum-ML demos and presented findings to club peers.