

Marcela Moura

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EDUCATION

Bachelor of Science in Data Science, Minor in Applied Physics

May 2026

New Jersey Institute of Technology

Newark, NJ

Awards: Dean's List all semesters, GirlHacks 2025 – 1st Place Winner

Affiliations: Vice President for the Society of Physics Students

SKILLS

Programming Languages: Python (Pandas, NumPy, Scikit-learn, Matplotlib), SQL, JavaScript

Data & Analytics: Tableau, Microsoft Excel, Jupyter Notebook

Developer Tools: Git, Docker, Bash, VSCode, Anaconda

RESEARCH

Undergraduate Research Assistant

Sept 2024 – Present

Center for Solar-Terrestrial Research, NJIT

Newark, NJ

- Developed an **XGBoost classifier** achieving **93% accuracy** to enhance space weather forecasting by identifying space-ground conjunction events
- Optimized model hyperparameters via the **Optuna** framework, yielding a **13% precision gain** in wave-event detection
- Selected to present at the **AGU Fall Meeting 2025** on feature importance and model performance findings

Grace Hopper Research Institute (GHRI) AI Summer Fellow

Jun 2025 – Aug 2025

Institute for Space Weather Sciences, NJIT

Newark, NJ

- Engineered **data preprocessing** pipelines for satellite datasets exceeding **1.5M observations** using Python to resolve data gaps and signal noise
- Applied **feature engineering** and **exploratory data analysis** with Pandas, NumPy, Scikit-learn, and Matplotlib to characterize Earth's magnetospheric dynamics

INDUSTRY EXPERIENCE

Data Analyst Intern

Jun 2024 – Aug 2024

Pryisma Technologies

Mountainside, NJ

- Drove data collection and analysis for AI chatbot development using **Microsoft Access** and **Excel**, producing actionable insights for financial decisions
- Built **Tableau dashboards** to visualize loan payment trends and support decision-making
- Assisted in **project management** tasks, including organizing project files and contributing to the hiring process

PROJECTS

ERICA – AI Tutor

Dec 2025

Graph-RAG pipeline powering an AI tutoring platform; tutors students in AI/ML concepts

- Designed a **Graph-RAG** system that constructs a knowledge graph, retrieves relevant nodes, and grounds **LLM-generated** tutoring responses with sourced course data for accurate, hallucination-resistant tutoring
- Containerized the application with **Docker** and Dev Containers for reproducible ML experimentation and deployment

Gaia – innergoddess.tech

Sept 2025

A Greek goddess-themed, campus-specific mentorship app tailored for women

- Scraped and parsed data from New Jersey Institute of Technology's website using **Python** and **BeautifulSoup**
- Integrated **Gemini LLM** with dynamic goddess personas that adapt responses to user mentorship needs
- Built a full-stack app with **React** front-end and deployed on a custom **.tech domain**