Sara Vargas

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Linkedin • GitHub • Personal Portfolio

Education

New York University - Courant Institute of Mathematics New York, NY
MSc in Computer Science May 2027

– **Relevant Coursework:** DevOps and Agile Methodologies, Natural Language Processing, Operating Systems

New York University - Courant Institute of Mathematics New York, NY
B.A. Honors Economics and Computer Science, Minor in Mathematics May 2025

– **Relevant Coursework:** Applied Internet Technology, Geometric Modeling, Deep Learning, Algorithmic Problem Solving, Fundamentals of Machine Learning.
– **Awards:** Dean's Undergraduate Research Fund Grant, The College of Arts and Sciences Service Grant

Technical Skills

– **Programming Languages:** Python,JavaScript, TypeScript, Java, C, R, Bash, HTML, CSS
– **Frameworks & Libraries:** React, Express, Hugging Face, p5.js, PyTorch, NumPy, Matplotlib
– **Databases:** MongoDB
– **Web & APIs:** RESTful APIs, Node.js, Vite
– **Tools & Platforms:** Docker, Git, Vercel, ESLint

Web Development Projects: Portfolio

Personal Websites – Developed and deployed responsive personal websites for clients, leveraging React, React-Bootstrap, and custom CSS/HTML to create engaging user experiences, hosted on Vercel.
Musical Letter Social Page - Developed and deployed a Node.js-based social platform where users send messages with music recommendations, featuring Apple iTunes preview integration. Implemented with Tailwind CSS, MongoDB clusters, and external APIs, while maintaining code quality using JavaScript linting tools (ESLint).
Eco Tracker - Built a React application with TypeScript and Vite that tracks users' daily actions and generates eco-friendly alternatives using LLM-based suggestions.

Experience

Octavate New York, NY
Software Developer May 2025 – Present

– Developed interactive data visualizations in p5.js to present company performance and artist metrics, building the frontend with React and Vite.
– Engineered Python-based generative art pipelines with Hugging Face Transformers, enabling the creation of customizable AI-generated artwork and experimentation with state-of-the-art deep learning models.

New York University New York, NY
Research – Undergraduate Honors Thesis Nov 2024 – May 2025

– Designed and executed an econometric study examining the heterogeneous effects of paid parental leave on maternal labor force participation, using national panel datasets.
– Implemented linear and logistic regression models in `R`; performed hypothesis testing and robustness checks across demographic subgroups.
– Discovered that mothers of color and unmarried mothers experienced a 5–20% greater increase in short-term labor force attachment with substantial increase in employment post-policy, relative to other groups.
– Created reproducible analysis pipeline with `tidyverse` and `ggplot2` (published codebase on GitHub).

Emerging Leaders in Technology and Engineering (ELiTE) New York, NY
Education Fellow Sep 2023 – Sep 2024

– Instructed weekly 5-hour sessions on Python programming for high school students from underrepresented backgrounds.
– Developed pedagogical strategies to enhance curriculum comprehension using p5 library to emphasize build visual creative portfolios.

NYU Gallatin New York, NY
Student Technician Jan 2024 – Sep 2024

– Supported faculty and staff with AV system troubleshooting and tech support.
– Managed hardware/software requests and collaborated with IT team on tech enhancencement projects.

Barcelona Supercomputing Center Barcelona, Spain
Student Researcher Jan 2021 – Jun 2021

– Built Python-based models for large-scale computational analysis.
– Leveraged Jupyter Notebooks and HPC systems to optimize workflows.

Leadership & Activities

Research+ Fellow at NYU CAS May 2024 – Sep 2024

– Selected for a competitive summer research fellowship in computational research at NYU.

NYU Undergraduate Research Conference Sep 2024 – May 2025

– Presenting undergraduate thesis on paid parental leave policy impacts.

Interests: Classical music training in harp and singing