Melody Nguyen

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PROFILE

Data scientist and research technologist with experience in Python automation, machine learning pipelines, data processing, and interactive scientific tools. Strong foundation in algorithms, ML, and software engineering, with hands-on experience building scalable, reproducible systems at national labs.

EDUCATION

Pace University, Seidenberg School of Computer Science and Information Systems — New York, NY

Bachelor of Arts (BA) in Computer Science | **Minor**: Business | Dean's List |**GPA**: 3.81 — May 2026

- **Honors Thesis**: Digital Pollution: Understanding Energy Costs of Large Language Models
- **Relevant Coursework**: AI, Software Engineering, Machine Learning, Data Science (Python/R), Algorithms, Networks and Internet, OOP, Data Structures, Research Methods

Cornell University, Product Management Certificate — New York, NY

Product hypothesis & personas, roadmap, prototyping, analytics, engineering and execution — Feb 2026

TECHNICAL SKILLS

Programming Languages: Python, Java, SQL, R, C, JavaScript (React)

- **ML/AI:** Scikit-learn, NumPy, Pandas, SciPy, Matplotlib, Seaborn
- **Tools**: Git, GitHub, AWS, Marimo, Jupiter, Tableau, Linux, Bash
- **Web Dev:** HTML/CSS, JavaScript, React, Jekyll, APIs
- **Concepts:** OOP, Data Structures, Algorithms, ML Pipelines, SDLC, Automation

PROFESSIONAL EXPERIENCE

Engineering Intern — Stanford, CA

Stanford Synchrotron Radiation Lightsource (SSRL) — *Jun 2025 – Aug 2025*

- Built Python automation to streamline X-ray diffraction data collection across 130+ runs
- Developed ML-based peak detection models and scalable pipelines for high-volume scientific data

Product Ambassador & Software Contributor — New York, NY

marimo.io — *Sep 2024 – Dec 2024*

- Developed interactive Python notebooks demonstrating reproducible scientific computing
- Contributed code, documentation, and UI/UX feedback to enhance platform interactivity
- Authored tutorials in Python data visualization, increasing adoption among researchers

Data Science Intern — Stanford, CA

SLAC National Accelerator Laboratory, U.S. Dept. of Energy — *Jun 2024 – Aug 2024*

- Analyzed 60+ photovoltaic datasets using Python, Pandas, and ML techniques
- Integrated NOAA + NREL data into automated pipelines for multi-state climate modeling
- Built visualizations and geospatial tools to support renewable grid resilience research

Software & Web Developer — Stanford, CA

SLAC National Accelerator Laboratory, Applied Energy Division — *Mar 2023 – Jun 2024*

- Developed and maintained 5+ grid-simulation platforms (HTML/CSS, JavaScript, and Jekyll)
- Built analytics dashboards to measure platform usage and performance
- Wrote documentation and onboarding guides for cross-functional engineering teams

PROJECTS & RESEARCH

Autonomous DIF Experimentation Logic — *2025*

- Designed ML-based peak scanning + automated phase detection
- Improved experiment efficiency across high-temperature diffraction cycles

Extreme Weather + Solar Performance Modeling — Python — *2024*

- Merged NOAA + NREL datasets to quantify grid stress events
- Visualized cross-regional performance losses during heatwaves

Arras Energy Website — *HTML, CSS, Markdown, Jekyll, Google Analytics* *2023*

- Released grid-simulation platform for renewable energy modeling
- Enabled researchers, regulators & planners to access open-data tools
- Supported climate resilience projects at SLAC

LEADERSHIP

Institute of Operations Research and Management Sciences, President 2023 – 2025

- Taught 300+ students: Python, R, SQL, Tableau, Excel
- Hosted Microsoft & Amazon speakers. Awarded Organization of the Year

Marketing Lead, Google Developer Groups 2025 – Present

- Increased workshop RSVPs by 200% through targeted engagement

AWARDS

- **IBM** AI Agentic Hackathon, 1st Place, 2025
- **NSF Supercomputing** 2024 Fellow
- **NVIDIA Deep Learning** Certificate 2025
- **Pforzheimer Honors Scholar**