

# 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.

## 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

## 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
  - Leadership:** President, Institute of Operations Research and Management Sciences
- Cornell University, Product Management Certificate** New York, NY  
Product hypothesis & personas, roadmap, prototyping, analytics, engineering and execution Feb 2026