

Ellen Foreman

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EDUCATION

Cornell University, College of Arts and Sciences
B.A. in Computer Science and Mathematics

Aug 2023 - May 2027

Awards: Milstein Scholar, Tanner Dean's Scholar, Coca-Cola Scholar Semifinalist

EXPERIENCE

Research Assistant, Sheehan Lab

August 2025-Present

- Analyzed 200+ visual features of stimulus images presented to paper wasps using **Python**, then linked feature-based image clusters to electrophysiological firing patterns to test whether machine-learning models predict neural responses

Nexus Scholars Program, Research Assistant

May 2025-July 2025

- Streamlined the Lexeis data-pipeline for the Plato lexicon, converting lexicon data across formats using **Python** and **PHP**
- Restructured **Transkribus XML** for Wüst's Aristophanes lexicon, writing Python scripts to extract lemmas, definitions, and citations into usable XML

Cornell Data Journal, Project Lead

January 2025 - May 2025

- Created data visualizations and data-driven stories using **Python**, employing libraries such as **NumPy** and **Pandas** for data manipulation and analysis
- Developed predictive models to assess piano competition repertoire difficulty and stylistic trends, applying statistical and machine learning techniques

Milstein Program in Technology and Humanity, Internship

Aug 2023 - Aug 2024

- Developed audio trailers for the Tompkins Center for History & Culture, and edited audio stories for elderly community members at Ithaca's Lifelong center with **DaVinci Resolve**
- Participated in an immersive summer experience at the Cornell Tech campus in NYC, exploring the intersection of technology and the arts through coursework in digital fabrication and innovation, AI and ethics, and public service, pitching projects in a final conference

Musicale, LLC, Internship

January 2021 - May 2023

- Created 30+ social media graphics and videos through **Canva** and **DaVinci Resolve** to feature Curtis and Juilliard professors

PROJECTS

Seeing Sounds on Campus Grounds - Data Visualization and Mini Documentary (2024)

- Developed an audiovisual documentary focusing on how Cornell students visualize music in their minds through spectral analysis, **AI**, and other data visualization techniques, leveraging **JavaScript** and **DaVinci Resolve**

Interactive Dashboard for the People's Money - Data Analysis and Web Design (2024)

- Consulted with the NYC Civic Engagement Commission's CIO to boost engagement for the "People's Money" (the city's participatory budgeting process), utilizing **Pandas**, **NLTK**, & **web development** to increase accessibility to engaging analytics and budget allocation ideas and help residents & commission employees evaluate proposals and understand community concerns

SKILLS

- Languages:** English, Spanish, Latin (intermediate working proficiency)
- Programming Languages:** Java, Python, OCaml, JavaScript, HTML/CSS, PHP
- Frameworks and Tools:** Django, GIT, JSON, Pandas, NumPy, JUnit, SQL, Three.js, XML
- Relevant Coursework:** Machine Learning, Algorithms, Discrete Structures, Object-Oriented Programming & Data Structures, Linear Algebra, Real Analysis, Probability