Ava Robillard

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EDUCATION

Master of Environmental Data Science, 4.00 GPA (Expected June 2026)
University of California, Santa Barbara- Bren School of Environmental Science & Management
Related Courses: Python for Environmental Data Science, Geospatial Analysis and Remote Sensing, Databases and Data Management, Machine Learning, Data Visualization and Communication (all to be completed by June 2026)

Bachelor of Science in Plant Sciences, Minor in Data Science, 3.95 GPA (May 2025)
Cornell University, Ithaca, NY
Related Courses: Data Analysis in Ecology, Introduction to Computing: Design and Development, Linear Algebra, Probability Models, Urban Plants and Public Health
Leadership: Plant Science Peer Mentor, Cornell Botanical Gardens Horticultural Enterprises
Honors: Pi Alpha Xi National Honor Society for Horticulture

DATA SCIENCE PROJECT EXPERIENCE

Rincon's Bio Weaver Tool- From Disparate Data to Actionable Analysis (1/26-Present)
Client: Rincon Consultants, Inc. | Master's Capstone Project

- Developing an automated data pipeline integrating multiple biological databases (CNDDB, CNPS, IPAC) to streamline species occurrence data retrieval, reducing manual processing time and increasing consistency
- Designing an interactive web application that accepts user-defined project parameters, automates data processing, and generates GIS-compatible outputs and species occurrence tables for regulatory reporting
- Collaborating with a 3-person capstone team via GitHub to implement version-controlled workflows with comprehensive documentation to enable independent client use

PROFESSIONAL EXPERIENCE

Computational Biology REU Intern – National Science Foundation, Chattanooga, TN (5/24-7/24)

- Processed and analyzed Landsat satellite imagery in Google Earth Engine to develop an Urban Heat Island Index using normalized incides for vegetation greenness and land surface temperature
- Designed spatial data maps in ArcGIS Pro, revealing temporal trends to assist in informing urban planning strategies for climate resilience
- Presented research at the ASPRS International Technical Symposium (2024): Spatio-temporal Analysis of Urban Heat Island Effect Using Remote Sensing, GIS, and Google Earth Engine

Herbarium Assistant – L. H. Bailey Herbarium, Cornell University, Ithaca, NY **(**10/23-5/25**)**

- Recorded taxonomic data from herbarium specimen labels into a MySQL curatorial database
- Imaged herbarium specimens to capture plant structure with a high level of precision, contributing to the overall objective of digitizing an 800,000-specimen collection for improved accessibility
- Filed specimens to support an organized system within the herbarium both geographically and by genus

Research Assistant II – Evolution of Plant Form & Function Lab, Cornell University, Ithaca, NY **(**2/22-5/25)

- Conducted bioinformatics analyses, including plastome annotation and alignments, single nucleotide polymorphism (SNP) calling, and phylogenetic inference using Bash scripts
- Extracted and quantified DNA using gel electrophoresis and Qubit for perennial species of *Glycine*
- Organized seed stocks and germinated seedlings for DNA sequencing of genetic diversity
- Co-author on Botany 2023 presentation: B Landis, A Robillard, A Mahan, and JJ Doyle. Overcoming phylogenomic challenges of nested polyploidy events in Glycine using genome-wide data. Botany 2023 Conference, July 22-26, Boise, Idaho

SKILLS

Technical: Python, R/RStudio, GitHub, ArcGIS, Google Earth Engine, Microsoft Office Suite, Google Suite