

Isaiah Guenther

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Class of 2024 Biological Engineering major from Cornell University with the ability to model phenomena, analyze data, design process flow, and conduct effective hands-on work in agricultural and environmental contexts

WORK EXPERIENCE

Soil and Water Lab – Cornell University

Oct. 2022 – Present

Research Assistant

Ithaca, NY

- In-progress: investigating pesticide leaching with NYS Department of Environmental Conservation
 - Sampling groundwater around New York to test for pesticide contamination
 - Using results to create machine learning models that predict future leaching events
- Aided with experiments and image analysis in MATLAB to characterize unstable finger flow
- Built lab website in WordPress – <http://soilandwaterlab.cornell.edu/>

Pro-Dairy: Environmental Systems – Cornell University

Jan. 2024 – Present

Research Assistant

Ithaca, NY

- In-progress: performing case study on anaerobic co-digester at 400-cow dairy farm
 - Communicating with farm owner to assess their process
 - Publishing a report for other interested farmers/professionals to reference
- Calculated economic savings from covered manure storages in Python
- Collected manure samples at different treatment stages to evaluate waste management practices

Costa Farms – Worldwide Supplier of House/Garden Plants

Summer 2023

Grower Department Intern

Miami, FL

- Investigated the efficacy of four different controlled-release fertilizers in various outdoor plant species
 - Goal was to determine viable alternatives to the company's fertilizer standard
 - Oversaw experimental operations – setup, monitoring, data collection
 - Analyzed fertilizer performance data using R-software
 - Presented to team and company executives on key statistical insights
- Collaborated with other interns to identify plant shipping process improvements
 - Presented opportunities for up to \$70,000.00 in annual savings

Wastewater Treatment Plant – City of Hastings

Summer 2022

Intern

Hastings, MI

- Ran daily lab tests on influent/effluent water – CBOD, coliforms, T/VSS, etc.
- Assisted team with equipment management and on-call sewer maintenance

EDUCATION

Cornell University

May 2024

BS, Biological Engineering – 3.30/4.0 GPA

Ithaca, NY

- Studied abroad Fall of 2023 in Santander, Spain at the Universidad de Cantabria
- Club Basketball Team, Outing Club, Stable Assistant for Equestrian/Polo Team Horses
- Notable coursework: *Fluid Mechanics* / *Heat & Mass Transfer* / *Molecular Bio & Genetic Engineering of Plants* / *Fish Ecology* / *Sustainable Water System Design* / *Digital Food Engineering* / *Machine Learning with Big Data* / *Object-Oriented Programming*

CERTIFICATIONS & SKILLS

- **Certifications:** FII Level 1 Freediver
- **Languages:** English (native), Spanish (working proficiency)
- **Software:** biological modeling, data analysis, basic machine learning – Python, R, MATLAB, Java, COMSOL, Excel
- **Hands-On:** wet lab, water sampling/testing, handling hazardous materials, working with animals, bioinstrumentation