

# Isaiah Guenther

Biological Engineer ♦ izguenther6@gmail.com ♦ Portfolio: <https://github.com/izguenther6>

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- Passion for environmentalism and local community organization
- Capable of both hands-on work and software-driven tasks
- Diverse professional experiences in labs, outdoors, and office environments

## SKILLS & CERTIFICATIONS

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- **Hands-On:** Wet lab | Water & waste sampling/testing | Water navigation (boat, paddle vessels, freedive, swim) | Soil testing | Native/invasive plant management | Working with animals | Cold & hot climate operations
- **Analysis:** Bio-process modeling | Heat & mass transfer | Control volume | Machine learning | Statistics
- **Software:** Python | R | MATLAB | Java | COMSOL | Excel
- **Communication:** Posters | Presentations | Website | Reports | Publications
- **Languages:** English (native) | Spanish (proficient)
- **Certifications:** FII Level 1 Freediver (obtained June 2023)

## WORK EXPERIENCE

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### Soil & Water Lab – Cornell University

Research Technician

2022 – 2025

Ithaca, NY-USA / Remote

- Monitored pesticide leaching with NYS Department of Environmental Conservation
  - Sampled surface/groundwater to test for pesticide contamination
  - Developed machine learning models and theoretical index to predict future leaching
  - Co-authored reports, presentations, and journal publications based on findings
- Built lab website – <http://soilandwaterlab.cornell.edu/>

### Oxley Equestrian & Polo Center – Cornell University

Stable Assistant

2024

Ithaca, NY-USA

- Maintained stalls for 30+ horses
- Implemented horse dietary/medicinal plans
- Guided horses to necessary stalls/pastures

### PRO-DAIRY: Environmental Systems – Cornell University

Student Research Assistant

2024

Ithaca, NY-USA

- Contributed to manure management database with NYS Department of Ag. & Markets
  - Measured methane emissions and collected manure samples at dairy farms
- Co-authored case study on anaerobic digester at 400-cow dairy farm

### Costa Farms – Worldwide Supplier of House/Garden Plants

Grower Department Intern

2023

Miami, FL-USA

- Investigated the efficacy of controlled-release fertilizers in outdoor plants
  - Oversaw experimental operations – setup, monitoring, data collection
  - Found key statistical insights on fertilizer performance
- Collaborated with intern team to identify plant shipping savings up to \$70,000 annually

### Wastewater Treatment Plant – City of Hastings

Intern

2022

Hastings, MI-USA

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

## EDUCATION

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### Cornell University

*Biological Engineering, B.S – 3.30/4.0 GPA*

- Study abroad – Fall 2023, Universidad de Cantabria in Santander, Spain
- Extracurricular – Club Basketball Team; Outing Club

**Class of 2024**

*Ithaca, NY-USA*

## PUBLICATIONS & REPORTS

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### Water Quality Monitoring for Pesticides in Upstate NY – 2023 Annual Report

**2024**

*Submitted to New York State Department of Environmental Conservation*

*Ithaca, NY-USA / Remote*

- Primary section author on machine learning use for pesticide leaching prediction
- \*public release pending, including associated journal publications

### Anaerobic Digestion at Wagner Farms: Case Study

**2024**

*Submitted to Cornell PRO-DAIRY: Environmental Systems*

*Ithaca, NY-USA*

- Publicly available – <https://ecommons.cornell.edu/items/64b63166-2f89-4e38-83e5-30d5e8076435>

## VOLUNTEER

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### Pierce Cedar Creek Institute – Nature Education Center

**2019 - Present**

*Stewardship Department Volunteer*

*Hastings, MI-USA*

- Collected native prairie plant seeds for redistribution
- Removed woody invasive plant species in local forests
- Catered banquet event

### Workaway

**2025**

*Volunteer Workawayer*

*Various Locations*

- Yard/garden care and home construction in France
- Dive Academy on Inis Mór, Ireland
  - Maintained diving gear and helped guide snorkeling/freediving trips

## REFERENCES

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### Tammo Steenhuis

*Former Supervisor, Professor of Biological & Environmental Engineering – Cornell University*

- Email: [tss1@cornell.edu](mailto:tss1@cornell.edu)

### Mia Cabrera

*Former Co-Worker, EHS Intern – Costa Farms*

*Current Master's Student in Environmental Horticulture – University of Florida*

- Email: [mia.cabrera@ufl.edu](mailto:mia.cabrera@ufl.edu)

### Verne Robins

*Former Supervisor, Utilities Superintendent – City of Hastings*

- Email: [vrobins@hastingsmi.org](mailto:vrobins@hastingsmi.org)