

# Connor Reed

📧 cwreed | ✉ connor.william.reed@gmail.com | 🌐 connor-reed

## Professional Experience

### Aquabyte

Machine Learning Engineer

New York, NY

June 2022 – present

- Developed, optimized, and deployed custom small-object detector model to detect sea lice on salmon with quantified uncertainty, yielding a 75% reduction in image annotation costs
- Developed, optimized, and deployed model to detect body wounds on salmon
- Built internal services to orchestrate serving images to computer vision models and optimize throughput
- Built internal service to automatically curate important data samples for model training and testing
- Built internal software library to streamline creation of model training and evaluation datasets from internal data pipeline with traceable metadata for reproducibility
- Conduct experiments to estimate effects of research proposals on company objectives

### Indigo

Soil Data Research Intern, Carbon Experimentation

Boston, MA

June – August 2021

- Developed quantitative framework to evaluate risk-reward tradeoff of key agricultural carbon market opportunities
- Crafted data visualizations used by the CEO to make key strategic decisions
- Developed generative Bayesian models to create synthetic soil data
- Created pipeline to automatically clean, map, and interpret soil sample data for customers

## Research Experience

### New York University, Department of Environmental Studies

Graduate Research Assistant, McDermid Lab

New York, NY

July 2020 – September 2022

- Developed deep learning pipeline to detect floods on smallholder croplands in sub-Saharan Africa using Sentinel-1 and Sentinel-2 satellite imagery
- Conducted geospatial time series analysis to assess the impact of floods on crop yields and food security in sub-Saharan Africa

### Yale School of the Environment

Research Assistant, The Bradford Lab

New Haven, CT

January 2016 – August 2020

- Assisted with laboratory and field data collection for experiments studying the ecological function, formation, and rapid measurement of soil organic carbon
- Conducted meta-analysis of long-term experiments to quantify the mediating effect of soil organic carbon on the relationship between conservation agriculture and crop yield stability

## Publications

1. Reed, C. *et al.* The impact of flooding on food security across Africa. *Proceedings of the National Academy of Sciences* **119**, e2119399119 (2022)

## Education

### New York University

Master of Science, Data Science

New York, NY

2020 – 2022

### Yale University

Bachelor of Science, Environmental Studies *with distinction*

New Haven, CT

2015 – 2019

- *Thesis title:* Engaging open-source precision viticulture to manage spatial heterogeneity and improve cover-cropping practice on an organic vineyard ([Abstract](#))

## Skills

### Programming Statistics

Python, R, SQL, Bash, Git, Docker, AWS, Terraform, dbt

Machine learning, deep learning, computer vision, time series, geospatial, probabilistic models, Bayesian inference, hypothesis testing, structural causal models, A/B testing, generative models

### Other

Scientific research, food systems, ecology, food security, climate change, music (bass)