

# 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
  - Wrote report for investors on the company's plans to advance sustainable aquaculture, establishing internal ESG 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 practices and crop yield stability

## Publications

- 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**

Python, R, SQL, Bash
- ML Tools**

PyTorch( Lightning), scikit-learn, experiment tracking (e.g., Hydra, Guild AI), TensorRT
- DevOps**

Git, Docker, Terraform, dbt, AWS
- Statistics**

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)