

# Connor Reed

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## 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 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)