

Connor Reed

 cwreed |  connor.william.reed@gmail.com |  connor-reed

Education

- New York University**
Master of Science, Data Science

New York, NY
2020 - 2022
- Yale University**
Bachelor of Science, Environmental Studies *with distinction, cum laude*

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](#))

- School for Field Studies // Ugyen Wangchuck Institute for Conservation and Environmental Research**
Study Abroad

Bumthang District, Bhutan
June - July 2017
- Completed coursework on Himalayan forest ecology, rural livelihoods, and Bhutanese culture
 - Conducted ethnographic field research on agricultural knowledge transfer in the village of Ura and presented findings to government stakeholders

Research Experience

- New York University, Department of Environmental Studies**
Graduate Research Assistant, McDermid Lab

New York, NY
July 2020 - September 2022
- Developed end-to-end deep learning pipeline to detect floods and smallholder croplands in Sentinel-1 and Sentinel-2 satellite image time series over sub-Saharan Africa
 - Conducted geospatial time series analysis using econometric modeling techniques to assess the impact of floods on food security in sub-Saharan Africa from 2009-2020 [1]
- Yale School of the Environment**
Research Assistant, The Bradford Lab

New Haven, CT
January 2016 - August 2020
- Conducted meta-analysis (data collection, statistical 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

[1] C. Reed *et al.*, "The impact of flooding on food security across Africa," *Proceedings of the National Academy of Sciences*, vol. 119, no. 43, p. e2119399119, 2022, doi: [10.1073/pnas.2119399119](https://doi.org/10.1073/pnas.2119399119).

Professional Experience

- Aquabyte**
Senior Machine Learning Engineer
Machine Learning Engineer

New York, NY
December 2024 - present
June 2022 - December 2024
- Developed and deployed sea lice detection system serving 350+ fish farm pens, processing ~90,000 images daily; built PyTorch ensemble (YOLOv9, DinoV2, custom neural field transformer) achieving >0.7 F1 on challenging underwater small object detection problem (targets often <2% width of image with blur and varying water conditions); iterated through 3 model generations using thousands of tracked experiments (Guild AI, Hydra)
 - Reduced lice product COGS by ~90% by automating statistical aggregation pipeline (Python) that combines model predictions with minimal human QA; validated through field trials, with customers reporting highest accuracy among competitors
 - Built 16-day lice forecasting model (LightGBM) with graph features and intervention simulation deployed to 350+ pens
 - Architected microservices infrastructure (FastAPI, PostgreSQL, Docker, Terraform) that serves as ML backbone for welfare product; scaled model inference throughput from tens of thousands to 2+ million images per day through continuous minibatch processing and queue management across multiple model servers
 - Created internal Python package/CLI for reproducible CVML dataset creation, enabling developers to export and process training data from production pipeline with configurable options documented in YAML metadata files
- Indigo**
Soil Data Research Intern, Carbon Experimentation

Boston, MA
June - August 2021
- Crafted quantitative framework, analysis, and data visualizations used by the CEO to evaluate risk-reward tradeoffs of key agricultural carbon market opportunities
 - Developed generative Bayesian models to create synthetic soil data combining information from published and proprietary data
 - Created pipeline to automatically clean, map, and interpret soil sample data for customers

Grants & Honors

- 2019 [Gaylord Donnelley Prize in Environmental Studies](#), Yale University, Department of Environmental Studies
- 2019 [Yale Global Food Fellowship](#), Yale Sustainable Food Program
- 2018 [Yale Summer Environmental Fellowship](#), Yale University, Department of Environmental Studies
- 2017 [Yale Global Food Fellowship](#), Yale Sustainable Food Program
- 2017 **Robert Berlin Fellowship**, Yale University, Berkeley College
- 2017 **Tristan Perlroth Prize for Summer Foreign Travel**, Yale University
- 2016 **Yale College First-Year Summer Research Fellowship in the Sciences & Engineering**, Yale University

Skills

Programming	Python, SQL, Bash
ML Tools	PyTorch, scikit-learn, NumPy, pandas, ONNX, TensorRT, FiftyOne, experiment tracking (Hydra, MLFlow, Weights & Biases, Guild AI)
Databases	PostgreSQL, Snowflake
DevOps	Git, Docker, Terraform, dbt, Airflow, AWS
Statistics	Machine learning, deep learning, computer vision, time series, geospatial, probabilistic models, Bayesian inference, hypothesis testing, A/B testing, generative models
Other	Research, writing, public speaking