

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