Connor **Reed**

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Education

New York University — *New York, NY*
Master of Science, Data Science — *2020 – 2022*

Yale University — *New Haven, CT*
Bachelor of Science, Environmental Studies *with distinction, cum laude* — *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 — *Bumthang District, Bhutan*
Study Abroad — *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 — *New York, NY*
Graduate Research Assistant, McDermid Lab — *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 — *New Haven, CT*
Research Assistant, The Bradford Lab — *January 2016 – August 2020*

- Assisted with field and laboratory data collection for experiments studying the ecological function, formation, and rapid measurement of soil organic carbon
- 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.

Professional Experience

Aquabyte — *New York, NY*
Senior Machine Learning Engineer — *December 2024 – present*
Machine Learning Engineer — *June 2022 – December 2024*

- Developed, optimized, and deployed custom small-object detector model to detect sea lice on salmon with human-level accuracy, yielding a 75% reduction in the cost of running the product while enabling more effective treatment and regulation
- Developed, optimized, and deployed model to detect body wounds on salmon
- Built system to integrate model servers into production pipeline, scaling inferences from tens to hundreds of thousands per day
- Built internal service to automatically curate important training/evaluation samples from production pipeline for human review
- Built ML dataset registry and Python library with common computer vision preprocessing and annotation methods to support model reproducibility and fast dataset curation
- Conduct live and simulation experiments to estimate effects of new models and research proposals on company objectives
- Serve on company's ESG committee; wrote report for investor on the company's impact, responsibilities, and plans to advance sustainable aquaculture in the wider industry, establishing internal ESG objectives

Indigo — *Boston, MA*
Soil Data Research Intern, Carbon Experimentation — *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, R, SQL, Bash
ML Tools	PyTorch(Lightning), scikit-learn, experiment tracking (Hydra, Guild AI, W&B), TensorRT
Databases	PostgreSQL
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, structural causal models, generative models
Other	Research, writing, public speaking, food systems, ecology, food security, climate change, music (bass)